

# Consumers' Research Bulletin



## February 1952

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# Consumers' Research Bulletin

## OFF THE EDITOR'S CHEST

**H**IGH taxes are taking their toll of consumers' purchasing. In the face of dire predictions by government officials that the current year will be one of austerity and shortages, stores appear to be well stocked with most of the necessities and a great abundance of the luxuries of life. The Christmas buying rush that was expected to help merchants cut down on excessive inventories failed to materialize in the volume desired in spite of extensive promotion and advertising. The jolt of the increased taxes last November brought home to a number who had never had to send a check to the Collector of Internal Revenue, because payroll deductions had collected their taxes before the money ever reached them, just how much they were contributing toward the support of the federal government.

The staggering figure paid in taxes during 1950 of more than fifty-seven billion dollars, about which many informed persons in public life have expressed concern, was upped to something like seventy-five billion in 1951. These astronomical sums, however, probably did not make nearly as unfavorable an impression on the average taxpayer as the \$8.50 per week deduction calculated as the amount of taxes taken from the pay envelope of a man earning \$80 per week with a wife and one child.

In addition to stepped-up payroll deductions of income before it is received, the cost of living has been increased by the imposition of new and continuation of previous taxes. The tax on automobiles was increased to 10 percent, adding \$45 to the price of a \$1700 car. There is a 10 percent tax on a long list of household appliances; 20 percent on brief cases and handbags. The federal gasoline tax was increased from 1½ to 2 cents per gallon. Cigarette taxes are up one cent a pack — to mention just a few of the items most in demand by consumers. And bear in mind that these are federal taxes only! Many states and cities also levy sales and other taxes. Total direct and indirect taxes on a moderate-priced (\$1700) automobile have been put at \$600. One tax authority has estimated that a family in the \$3000 to \$4000 income bracket paid \$908 in visible and invisible taxes back in 1948, before the last federal income tax rise.

Even labor unions inclined to go along without protest with the political philosophy of "tax and tax and spend and spend and elect and elect" because they

(Continued on page 18)



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Consumers' Research functions to provide unbiased information on goods bought by ultimate consumers. For their benefit (not for business or industry) and solely with the funds they provide, CR carries on tests and research on a wide variety of goods, materials, and appliances, and publishes the findings in CR Bulletin. Consumers' Research is a non-profit institution, and is organized and operates as a scientific, technical, and educational organization.

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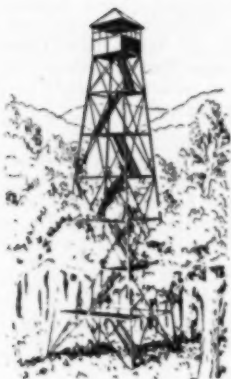
\*CR will, of course, gladly change addresses for men and women in the services as often as required by changes in station and other circumstances.

\*\*\*For a brief cumulative index of the 1952 BULLETIN preceding this issue, see page 18.

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## *The Consumers' Observation Post*

HAMBURGER, when meat is high in price and there are many demands on the budget, is likely to be a family standby frequently served in various forms. Ready ground, it usually contains too much fat to suit the thrifty homemaker. Consumers in the state of North Dakota, however, are protected to some extent by a state regulation that limits the amount of suet to 20 percent. During the year 1950, the North Dakota State Laboratories Department reported a check of 253 samples of hamburger, of which 119 contained excess fat. Unfortunately, the Department noted, the Office of Price Stabilization permitted up to 30 percent fat in hamburger, and since the federal regulation was held to supersede the state requirement, consumers in North Dakota have had to put up with what their own State Regulatory Department considers hamburger of an inferior quality, because of the lower standards of the Office of Price Stabilization.

\* \* \*

SALES OF MEN'S WEAR continue to lag, according to an informed trade journal. Lightweight wool tropical suits are losing out to synthetics and blends of synthetics with wool in the lightweight suits. Rayon is expected to be the biggest seller in the under-\$30 price class. Synthetics will also be widely used in shoes where nylon meshes are expected to be popular in top-quality lines as well as in the less expensive shoes. The apparel trades talk wistfully of the fact that a "corrective period" following a buying rush must come to an end some time, but they note sadly that people are spending less on clothing than normally.

\* \* \*

CIGARETTE ADVERTISING which came under fire by the Federal Trade Commission last year has also been viewed disapprovingly by the National Better Business Bureau. Chesterfields are the offender for claiming that a panel of five members of the faculty of the University of New Hampshire made a 1951 survey and an appraisal of cigarette advertising of five leading cigarettes and found that only Chesterfield was judged entirely free from misleading statements or false claims. The facts of the matter, the National Better Business Bureau pointed out, were that the faculty of the University of New Hampshire did not make the survey; that a foundation that did make a survey had no connection with the University of New Hampshire; that the five panel members of the foundation who did make a report did not make a survey of all the advertising; the panel members were not qualified by training or experience to pass on the truth or falsity of cigarette claims of a technical nature nor did they have the benefit of technical information. Furthermore, neither the panel nor the faculty of the University of New Hampshire stated (as claimed) that "of all those brands Chesterfield is the only one which has never made any false or misleading statements." In the light of the foregoing, the reader would be justified in concluding that Liggett & Myers Tobacco Co. and its advertising agency Cunningham & Walsh should be awarded some sort of booby prize for misleading advertising of the worst sort.

\* \* \*

WHETHER TO FLUORIDATE DRINKING WATER or not is a topic of considerable interest in many parts of the country. The scientific aspects of the problem are so comparatively new that many angles are still to be explored. Ossification studies by Dr. Albert E. Sobel and Dr. Harry Goldenberg, of Brooklyn, briefly reported in the New York Times, indicated that fluoridated water may prevent tooth decay in the absence of magnesium in the diet, but that in the presence of magnesium, fluoride blocked mineralization. The researchers suggested that

if their studies on ossification "produced by artificial calcifying media apply also to growing teeth and bones, it would seem advisable to restrict the amount of magnesium taken in the diet in order to avoid a retardation of bone development by fluoridation." A very small amount of magnesium is required by the body, but it may well be that a water supply high in magnesium, as many water supplies are, should in no case be subjected to the fluoridation process.

\* \* \*

**WHY MEN GET BALD** and how to prevent it has been a topic of unfruitful research for centuries. One of the most recent theories advanced by Dr. Peter Flesch and his associates at the University of Pennsylvania medical laboratories is that human sebum secreted by the skin may act as a control on natural hair growth. The clue to the possible effect of sebum came from the investigation of temporary loss of hair by a number of workers in a synthetic rubber factory. The causes were traced to six chemical substances, of which the following three are normally present in human sebum: squalene, oleic acid, and linoleic acid. Lest this announcement awaken hope, we hasten to add that the research work is still strictly in the experimental stage, with no practical application as yet announced.

\* \* \*

**TELEVISION SERVICE CONTRACTS** have been unsatisfactorily handled in some sections of the country. In New York City the abuses, breaches of contract, and general ineptness in the servicing and repair field have been so extensive that a licensing law was finally passed last fall requiring service contractors, repairmen, and dealers to meet various requirements before they can obtain licenses to operate. Mechanics are required to have 21 months' service or to be a graduate of an accredited TV course with six months' training on the job. Owners of television sets in the New York area will watch with interest to see whether the new legislation will afford them protection against the sort of gyps and fly-by-nights who "fold," leaving service contracts unfulfilled.

\* \* \*

**MORE POTENT INSECTICIDES** are expected on the market, so effective against bugs that they involve potential hazards to human beings. One particular group is known as "systemic" insecticides that are taken up in the sap stream of the plant making it toxic to certain chewing and sucking insects. Basically the products are organic-phosphates. One formula will be marketed under the name Pestox; another is known as Systox. Both are applied by spraying on the foliage or are introduced into the roots by ground watering. Eventually chemical action within the plant is described as rendering the poison ineffective, but while it is active (approximately six weeks) the plant is poisonous to human beings. There is considerable indication that these organic-phosphorus products should be used only on ornamental plants such as roses and chrysanthemums and non-edible crops like cotton. Whether the application of such potent insecticides can be effectively supervised so that there is no possibility of their being used on or carried during application to plants being grown for food must be a matter of concern to all consumers who do not grow their own fruits and vegetables, and so have control over their handling.

\* \* \*

**SNACKS BETWEEN MEALS** present an increasingly serious nutritional problem in the school lunch program, according to Wade D. Bash, Ohio supervisor, who has pointed out that candy, popcorn, potato chips, and soft drinks have greatly limited food value for growing boys and girls. Such items reduce the appetite for simpler, more essential foods. Furthermore, when lunch money is provided to be spent by the individual boy or girl, the selection may be poorly made at a lunch counter where a wide variety of sweets and soft drinks is temptingly displayed.

\* \* \*

**HOW MUCH** should a woman expect to pay for a pair of nylon stockings? The question cannot be answered simply for there appears to be no rhyme or reason to prices. As an item in Women's Wear Daily put it, "One of the safest and most profitable ways to operate in today's price-confused market is to sell the same stocking at two or three different prices -- that way, an item around \$1 will sell best and return a good markup, while the lower-priced goods compete

(The continuation of this section is on page 29)



## Heating Pads

**T**HE HEATING PAD is an electrical appliance which if not properly and carefully made under close factory control and given good care will involve exceptional elements of hazard to the user. Probably it is the most dangerous of all electrically operated appliances used in the home, since it may cause the burning of the skin, or a fatal shock, or even set fire to the bedclothing.

A special element of danger arises when the heating pad (which is placed in close contact with the body) is used by an aged person or one bedridden and incapable of quick and positive movement, or who does not have the strength to remove himself from contact with the pad in the event that it becomes too hot or becomes electrically "live." This danger also exists, to a lesser degree, in the use of a pad by a person normally healthy who may be trying to relieve the pain of an aching back or a sore muscle.

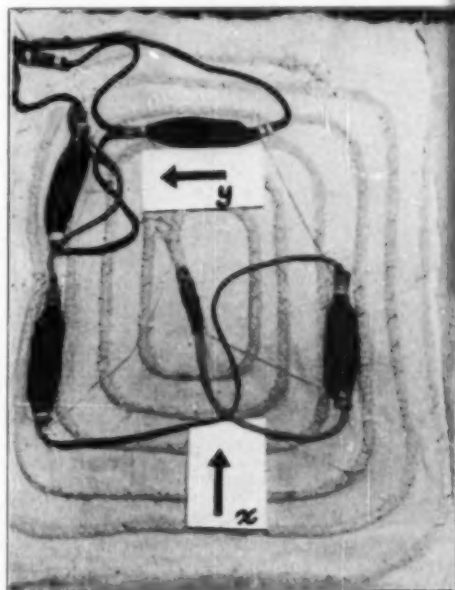
CR has reports of several instances on file in which there has been loss of life because a user has gone to sleep with a heating pad turned on and failed to awaken when the bedclothing had caught on fire due to improper operation of the pad. It is well to remember that any heating pad can become a hazard, especially if abused or incorrectly used. This is true even though the pad was found to be quite safe to use when in new condition and as tested by Consumers' Research. The Underwriters' Laboratories' Standard for Electric Heating Pads in recognizing the potential hazard states "... these Requirements take into consideration the unusual inherent hazards of heating pads and provide for the reduction of these hazards as far as practicable in view of the constructions generally employed." Unfortunately, many of the points regarding the safety of a given pad are concealed by the sealed "envelope" within which are enclosed the heating wire and the thermostats.

There are two general kinds of failure which may result in considerable hazard to the user. The first, overheating, may be caused either by failure of a control thermostat or by a short circuit resulting from accidental contact within the pad between sections of the heating unit or the connecting wires that are at different potentials. See picture opposite, showing construction of a pad with its resistance wire and thermostats. The second, electrical leakage, may occur either as a result of insulation defective at the time of manufacture or as a result of some deterioration in use or handling or of the entry of moisture into the pad.

Several means may be employed by a manufacturer to reduce the many hazards inherent in a heating pad. One important means is to limit the

electrical energy drawn by the pad. An acceptable input for pads of normal size is 0.4 watt or less per square inch of pad surface at any line voltage likely to occur; all of the pads in this series of tests were found to comply with this requirement. Another vital point to help assure safety is the use of two or more thermostats of adequate design connected in series so that if one should fail, the second or third one, if present, will open the electrical circuit and thus prevent overheating of the pad. Each pad mentioned in the listings had a minimum of two thermostats connected in series with the heating element. More than two are, of course, still more desirable.

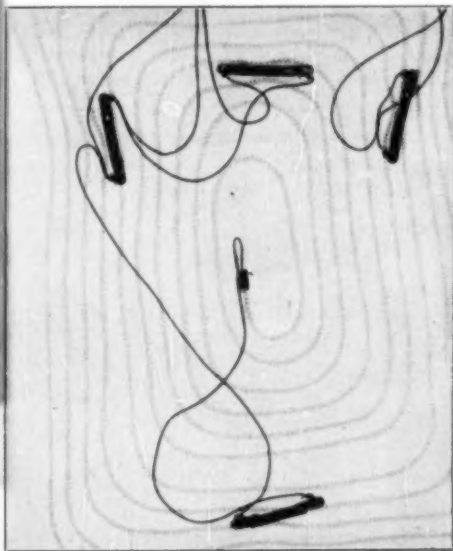
The heat output from a heating pad is controlled generally by one of two distinct methods. The preferred method provides for control of the heat output of the pad at any one of several (usually three) values which is chosen by the user by proper positioning of the knob on an external control switch. The other method, although employing an external control having similar markings, provides only for a change in the rate at which the pad warms up; the thermostats in this case act essentially as



Photograph showing internal construction of the Kenmore heating pad. Note potential danger spots at *x* and *y* where wires cross unnecessarily, and could, in time, become short-circuited.

safety devices by cutting off the supply of electrical energy to the pad at a temperature which will, under this condition, be approximately the same, irrespective of the setting of the control switch.

The *Glencoe* pad was constructed to give different temperature values by an arrangement of resistance wire in two sections so that either section could be used alone, one to provide for low and one for medium heat, or with both connected, in parallel, for the high temperature. The *Electrex*, *General Electric*, *Kenmore*, and *Universal* pads had a single heating element which was in the circuit at all times. High, medium, and low temperatures were controlled by three of the four thermostats in the circuit, each of which opened the circuit at a preselected temperature. This method gives good heat control for most users but has the minor disadvantage that if the thermostats used for maintaining low and medium heat output become inaccurate, the temperature of the pad will be controlled by that thermostat with the next higher setting. Thus a pad which was properly safeguarded to begin with may at a later time give a higher temperature than intended.



X-ray photograph of the Universal heating pad. Note that better placement of the wiring associated with the top and bottom thermostats would eliminate four possible danger spots where wires cross unnecessarily.

The *Casco*, *Knapp-Monarch*, *Samson*, *Wards*, and *Westinghouse* pads had one of the control thermostats placed close to a small auxiliary heating element wired into the circuit. For the low and medium heat positions this element was energized and the localized heat close to the control thermo-

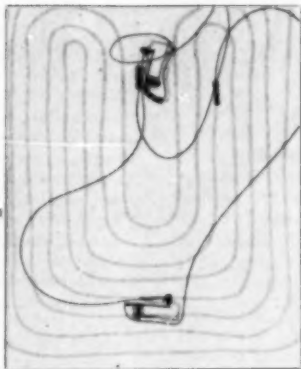
stat in conjunction with the usual heat of the pad served to open that thermostat at a lower over-all temperature of the pad than would prevail if the small auxiliary heating element were not energized. This construction has the disadvantage that improper operation of one thermostat affects not one but two heat settings.

In setting up procedures for the tests on heating pads, CR followed the Underwriters' Laboratories' Standard in most respects. Certain exceptions were made to that Standard which CR deemed necessary. The Underwriters' Laboratories' Standard, for instance, allows the surface of the pad to reach a temperature of 212°F — the temperature of boiling water — during the initial warm-up period, and permits a peak temperature of 194° after operation becomes stabilized. CR believes that an average temperature of about 165° is the maximum that should be allowed; some users who are particularly sensitive to heat may find that even this temperature on the surface of a pad is too high for their comfort. Temperature measurements were taken with a 6-point recorder, but none were found to give high temperatures generally which were considered objectionable. The Underwriters' Laboratories' Standards allow a leakage current up to eight milliamperes under one condition of test for a pad of the type not claimed to be waterproof. CR feels that the eight milliamperage figure is definitely too high and involves an element of danger for any person, particularly for a young child. The Underwriters' Laboratories set the much safer limit of one milliamperage of current for *waterproof* pads when tested in the "as received" condition. CR's limit for leakage for a heating pad under any condition of test is 0.2 milliamperage. This limit for leakage was chosen because a pad is often subjected to wetting, accidentally, or from normal perspiration, and nothing less than complete protection of the wiring and resistance wire heating element from access of moisture can assure full safety under certain conditions that may occur with a child or an invalid. CR's tests have shown repeatedly that unless fully waterproof construction is used, a pad which initially had high insulation resistance may become a source of great danger when subjected to moisture; an initially insignificant leakage of current can increase to several milliamperes or even amperes when a pad is wet. With electric current leaking at such a rate into the body or between parts of the pad intended to be insulated from each other, there can be the gravest danger of setting the bedclothes on fire, or of electrocution, or possible grave burns or death by application of extreme heat to the skin.

In effect, the only pad which is safe for use is one whose unit is securely sealed (by vulcanizing or an equivalent process) into rubber or some equally tough, strong, and durable material impervious to water.



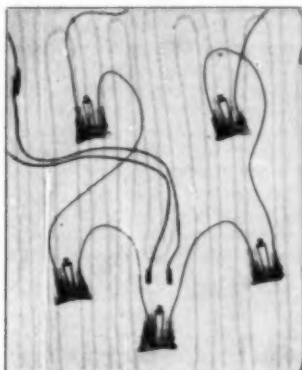
Wards



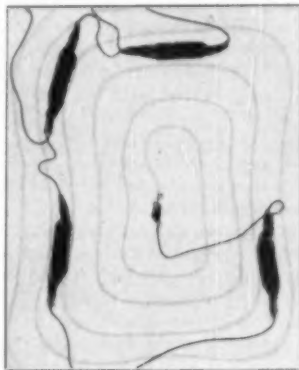
Casco<sup>1</sup>



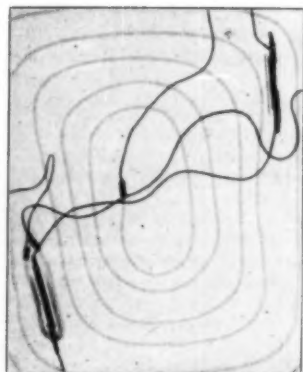
General Electric



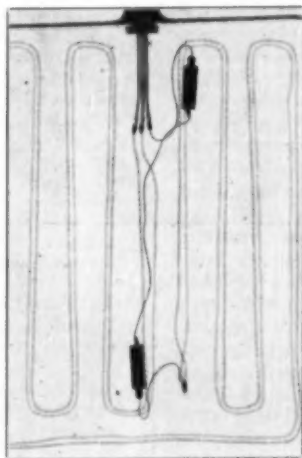
Samson



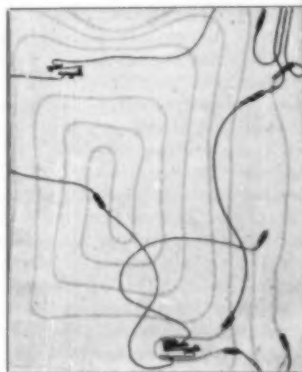
Electrex



Westinghouse



Glencoe



Knapp-Monarch

**Reproductions of X-ray photographs showing arrangement of wiring and thermostats in eight pads.**

The cover on any pad should be inspected periodically to detect promptly any cracking or other signs of deterioration of the cover which may occur with aging or unduly hard usage. We repeat that it is necessary to bear in mind that a pad which affords a high degree of safety when new may not do so after it has deteriorated with age or mishandling, or after some accident, such as excessive strain on the point where the cord is attached to the envelope.

The thermostats used in the heating pads tested all produced radio interference in the form of a click or a rasping sound. The degree of annoyance caused is largely dependent upon the frequency with which the current is turned on and off within the pad, a factor which in turn depends in part upon the conditions of use of the pad.

In addition to the current leakage and voltage breakdown tests, CR also ran tests, with use of a multiple point thermocouple recorder, to determine the surface temperatures of the pads at the various control settings, both with the pad surrounded by thick insulation and with one pad surface exposed to the air. The frequency of operation of the thermostat was also recorded during this test. A thermostat which operates too frequently is likely to have a shorter life than one which functions less frequently.

In each case, watts input to the pad were measured to determine whether or not the value exceeded the 0.4 watt per square inch value which is allowed. All pads were satisfactory in this respect. Finally, X-ray photographs were taken of each pad to determine the arrangement of the wiring and thermostats within the pads. This is a point of some importance since, when wires of different potential cross each other within the pad, there is always the danger that a short circuit may occur after the pad has aged or received rough usage, or the insulation on the wiring has been worn thin or deteriorated. All the X-ray photographs have been reproduced in order that readers may see how the internal connections and the number of thermostats vary from one make to another, and also how easily a short circuit might develop at the points where wires that are not at the same potential cross each other.

In the listings following, rated watts input is followed in parentheses by the measured watts input. Each pad tested was for operation on either d.c. or a.c., and carried the Underwriters' Laboratories' label. With the exception of the *Universal*, all pads were marked either "wet proof" or "waterproof" and the Underwriters' Laboratories' Specifications for test applying to this general type of pad were used as the general basis for test. The lengths of the connecting cords were in each case greater than the 72-inch minimum acceptable to the Underwriters.

Ratings are cr51.

The X-ray photographs in this article were taken

by St. John X-Ray Laboratory, Califon, New Jersey.

## B. Intermediate

**Wards, Model 05 FCC 1802A** (Montgomery Ward's Cat. No. 86-1802) \$6.50, plus postage. A waterproof pad with quilted removable outer cover. Rated watts input, 55 (58). 2 thermostats. Heat regulation, fair; there was only a relatively small difference between the watt-hours per hour input to the pad at "low" and "medium" settings after equilibrium had been attained. Radio interference, objectionable. Thermostat action occurred too frequently, a disadvantage in that it tends to shorten the life of the thermostat. Leakage current, satisfactorily low. This pad was found to be similar to the *Casco H50-1* in materials and construction. The *Casco*, however, used a different control switch and the X-ray photographs indicated that the auxiliary heat-control elements around the thermostats were of different length; either difference might account for the differences in operation found in the tests. Not listed in Fall and Winter catalog but may be available at some of Ward's retail stores. 1

**Kenmore** (Sears-Roebuck's Cat. No. 34-6969) \$7.95, plus postage. A waterproof pad with 3 separate covers made of cotton, cotton flannel, and terrycloth. Rated watts input, 55 (58). 2, 3, or 4 thermostats in circuit, depending upon control setting. Heat regulation, good, with good range. Radio interference, somewhat objectionable. Thermostat action occurred quite frequently at low and medium settings, but not at high setting. Leakage current, satisfactorily low. This pad was constructed similarly to the *Electrex X-311* except for minor differences noted in placement of two of the thermostats. 2

**Casco, Model H50-1** (Casco Products Corp., Bridgeport, Conn.) \$8.45. A waterproof pad with quilted removable outer cover. Rated watts input, 55 (56). 2 thermostats in circuit. Heat regulation, good, with good range. Switch control provided for varying heat input to pad over complete range between lowest and highest settings. Radio interference, somewhat objectionable. Thermostat action occurred quite frequently. Leakage current, satisfactorily low. 3

**General Electric, Cat. No. PS8A3** (General Electric Co., Bridgeport 2, Conn.) \$8.95. A waterproof pad with removable outer cover made of fabric. Rated watts input, 60 (67). 2 or 3 thermostats in circuit, depending upon control setting. Heat regulation, fair (only small difference between the watt-hours per hour of electricity consumed by pad during selected interval when set at low and medium settings). Radio interference, not objectionable. Thermostat action was infrequent except at low switch position. Leakage current, satisfactorily low. 3

**Glencoe, Model 100** (Glencoe Electric Co., Inc., New York City) \$8.95. A waterproof pad with molded rubber cover and removable outer cover made of fabric with no closure device; absence of closure considered undesirable. Rated watts input, 55 (61). 2 thermostats in circuit at all times. Heat regulation, good, but range very limited; heat output was approximately the same for each of the three switch positions, although control switch was marked "high," "med," "low." Radio interference, not objectionable. Thermostat action occurred comparatively infrequently. Leakage current, satisfactorily low. 3



*Samson, Safe-T, Hospital Type, Model 5588* (Samson United Corp., Rochester, N. Y.) \$8.95. A waterproof pad with 2 removable outer covers of muslin, treated with Du Pont Zelan. Electric connecting cord much longer than average, an advantage to most users. Rated watts input, 55 (60). 5 dual-thermostats (a total of 10 thermostats), well distributed, and in circuit at all times. Heat regulation, fair. Radio interference, objectionable. Thermostat action occurred frequently. A *Samson* pad of the same model number and similarly constructed, tested and reported on in 1946, was found to be one of the two best pads in that series of tests. The two pads, however, were not connected similarly internally. 3

*Westinghouse, Cat. No. WP-501* (Westinghouse Electric Corp., Mansfield, Ohio) \$8.45. A waterproof pad with quilted snap-on fabric cover. Electric connecting cord longer than average, an advantage to most users. Rated watts input, 60 (62). 2 thermostats in circuit at all times. Heat regulation, good. Radio interference, not objectionable. Thermostat action occurred comparatively infrequently. Leakage current, satisfactorily low. This pad was considered to be slightly preferable to any other heating pad in the group tested. 3

### C. Not Recommended

*Electrex, Model X-311* (Rexall Drug Co., Los Angeles) \$6.50. A waterproof pad with removable outer cover of

blanket material. Rated watts input, 55 (60). 2, 3, or 4 thermostats in circuit, depending upon control setting. Heat regulation, fair (heat outputs at medium and high settings were about the same). Radio interference, somewhat objectionable. Thermostat action occurred frequently at low and medium settings; was of average frequency at high setting. Leakage current, 0.9 ma., excessive. This was the only waterproof pad which had excessive leakage current. Similar to *Kenmore* except for minor differences in placement of 2 of the thermostats. 1

*Knapp-Monarch, Cat. No. 27-514* (Knapp-Monarch Co., St. Louis) \$7.95. A waterproof pad with removable outer cover of fluffed cloth. Rated watts input, 55 (62). 2 thermostats in circuit at all times. Heat regulation, poor; there was only a relatively small difference between the watt-hours per hour used by the pad at medium and high settings. Radio interference, objectionable. Thermostat action occurred very frequently. Leakage current, satisfactorily low. 2

*Universal, Model EAB 7201* (Landers, Frary & Clark, New Britain, Conn.) \$8.95. Not represented as a waterproof pad. Cover of blanket material. Removable outer cover of rubberized cloth. Rated watts input, 65 (60). 2, 3, or 4 thermostats in circuit at all times, depending upon setting of control. Heat regulation, good. Radio interference, not objectionable. Thermostat action occurred comparatively infrequently. Leakage current, under high humidity but not wet conditions, 1.0 ma., excessive (see text). 3

## Fluoridation

THE Citizens Medical Reference Bureau (1860 Broadway, Suite 1215, New York 23) has just published an 18-page pamphlet that will be of great interest to those who are taking such steps as are possible to prevent the fluoridation of the water supplies of their communities. This pamphlet quotes a number of chemical and medical experts who oppose fluoridation, and gives a very good brief statement of the arguments against requiring that all persons at all ages shall consume water containing added fluorine to give a content of approximately one part per million of fluorine.

Particularly of interest are communications from a number of medical and dental experts strongly opposed to *compulsory consumption* of fluorides in the water supply by the great majority of people beyond childhood, to whom the added fluorine can be of no possible value in the formation and preservation of teeth. The letter of Dr. Robert S. Harris, Professor of Biochemistry of Nutrition at Massachusetts Institute of Technology, will be of special interest to those who have been told that only a

few persons who are lacking in knowledge of nutritional and biochemical science are in opposition to the general fluoridation of water supplies.

Possibly the most important aspect of the fluoridation program is its indication of the determination of federal officialdom to intrude into matters which are essentially local and call for local consideration and decision; the U. S. Public Health Service has put a tremendous amount of energy and a good deal of taxpayers' money into a propaganda program favoring fluoridation of community water supplies. Not long ago the Public Health Service and the U. S. Department of Agriculture propagated for measures, for the supposed prevention of goiter, that would require all salt for consumers' use to contain added iodine — to be used by all, including those to whom even minute doses of iodine are poisonous and those who live in parts of the country where ample amounts of iodine are already present in the food supply. (The iodine problem is discussed in an editorial in *CONSUMERS' RESEARCH BULLETIN* for April 1950, and in a brief note in the May 1948 *BULLETIN*.)

# Rubber Footwear

## Men's Rubbers

Into each life a little rain must fall, a men's clothing magazine reminds us, as it suggests that every man is in the market for at least some rubber footwear. Most men find it expedient to have at least one pair of rubbers. Men who are outdoors a great deal show a preference for the storm style, which has a center extension to cover the laced portion of the shoe. Another popular style, the sandal, so called, has an upper which stops a little short of the laces.

Rolled edges of soles are good construction in men's rubbers, and if the edges are not rolled, they should be reinforced by foxing strips (extra strips of rubber). Heels should be thick and stiff. Because rubbers are likely to tear at the top edge of the upper, a strong, tear-resistant edge there is important.

The samples of men's rubbers tested were dissected and examined for construction details important for good service. In addition, samples of the outsole compound (used in sole and heel) were subjected to mechanical abrasion on a machine designed to determine abrasion resistance of rubber compounds; these results, along with measurements of the thicknesses of the soles and heels, were considered in evaluating wear resistance.

### A. Recommended

- Ball Band Ariel* (Mishawaka Rubber & Woolen Mfg. Co., Mishawaka, Ind.) \$2.50. Sandal. Construction judged good. Wear resistance of outsole, very good. AA  
*Commonwealth* (Montgomery Ward's Cat. No. 24-9488) \$1.98, plus postage. Storm style. Construction judged fair. Wear resistance, very good.  
*Gold Bond* (Sears-Roebuck's Cat. No. 76-9149) \$1.98, plus postage. Sandal. Construction and wear resistance, good.

*Goodrich, Medium Weight* (B. F. Goodrich Co., 448 S. Main St., Akron, Ohio) \$2.95. Storm style. Construction and wear resistance, good.

*Hood, Medium Weight* (Hood Rubber Co., Div. of B. F. Goodrich Co., 98 Nichols Ave., Watertown, Mass.) \$2.95. Storm style. About the same as *Goodrich* listed above. Construction and wear resistance, good.

### B. Intermediate

*Gold Seal* (Goodyear Rubber Co., Middletown, Conn.) \$2.45. Storm style. Construction and wear resistance, fair.

*U. S. Royal, Ardsley* (U. S. Rubber Co., Naugatuck, Conn.) \$2.50. Sandal. Construction, fair. Wear resistance, good.

### C. Not Recommended

*Tyer, Laska* (Tyer Rubber Co., 100 Railroad Ave., Andover, Mass.) \$2.25. Storm style with front part of upper finished with fabric. Construction, good. Wear resistance, relatively poor. Heaviest men's rubber tested.

## Women's Rubber Footwear

Women have a different problem from men when they are selecting rubber footwear. Men's shoes don't differ greatly in heel height or shape; women's shoes show no such uniformity. Women's shoes have heels of widely different shapes and heights and require different styles of rubber boots; "wedge-heeled" shoes will need still a different boot. Furthermore, a heavy rubber boot that may be considered satisfactory style-wise for shopping at the local supermarket would be totally unsatisfactory for dress wear because it fails to give a "trim line" to the foot.

For these reasons, women will select rubber footwear because of style rather than durability. Foxing strips on a woman's boot are for durability,



Two Styles of Men's Rubbers

The first and third rubbers are storm style; the second and fourth are sandals. Note the rolled edge of the outsole of the sandal at the extreme right.

but they may make the boot too heavy and bulky-looking for some women's taste. Likewise a gore would afford much better protection (e.g., against deep water or slush in street gutters) than a simple flap at any opening, but a gore is bulkier and would not be thought suitable by some women for certain styles of boots.

The women's footwear tested, therefore, has been evaluated on the basis of the resistance to abrasion of the outsole compound and the thicknesses of the rubber in the soles and heels. Wear resistance is important for footwear that is bought for hard use, such as that given rubber footwear by girls who walk to school or by others whose work requires them to do a considerable amount of walking in bad weather.

### A. Recommended

*Commonwealth, Women's Black Slidezy Boot* (Montgomery Ward's Cat. No. 24-9610) \$4.39, plus postage. Black boot with side zipper closing and flap, and stockinette lining. Wear resistance of outsole, very good.

*U. S. Gaytees Grenadier Kwik Boot, W'R259, Chatham* (U.S. Rubber Co., 1232 Ave. of The Americas, New York City) \$5.45. Black boot with side zipper closing with gore; felted side lining and stockinette toe lining. Wear resistance, very good.

### B. Intermediate

*B. F. Goodrich Women's Military Boot* (B. F. Goodrich Co., 448 S. Main St., Akron, Ohio) \$4.95. Black boot with ankle strap; felted side lining and stockinette toe lining. Wear resistance, fair.

*Gold Seal Sleigh Boot, No. W4000* (Goodyear Rubber Co., Middletown, Conn.) \$5.95. Black boot with front zipper closing with flap and imitation fur cuff; felted lining. Wear resistance, fair.

*Hood Talon* (Hood Rubber Co., Div. of B. F. Goodrich Co., 98 Nichols Ave., Watertown, Mass.) \$5.95. Black boot with side zipper closing with gore; felted side lining and stockinette toe lining. Wear resistance, fair.

### C. Not Recommended

*Ball Band "Boston," Edith Last* (Mishawaka Rubber & Woolen Mfg. Co., Mishawaka, Ind.) \$5.45. Brown boot with side zipper closing with gore and stockinette lining. Wear resistance, relatively poor.

*Kerrybrooke Women's Black Pullover Boot* (Sears-Roebuck's Cat. No. 76-9846) \$3.49, plus postage. Black boot with ankle strap and stockinette lining. Wear resistance, relatively poor.

*Tyer Women's Bowl Boots* (Tyer Rubber Co., 100 Railroad Ave., Andover, Mass.) \$5.95. Brown boot with front zipper closing with flap, and imitation fur cuff and felted lining. Wear resistance, relatively poor.

## Automobile Tire Rotation

THE fundamental purpose of "rotating" tires is to obtain even wear on all tires, thereby extending their service life on the car. There are so many different methods now recommended by automobile manufacturers in their instruction manuals for car users, and by service stations, and others, that the consumer is likely to be in the position of being unable to decide which of several methods he should use.

The Rubber Manufacturers Association (444 Madison Ave., New York 22) in their booklet *How to Get Extra Service Out of Automobile Tires* gives automobile users their choice of one of three methods shown below for "rotating" tires without dismounting them from the rims.

In method A, the front tires are moved to the rear wheels without changing the direction of rotation. Any uneven tread wear of the front tires can be corrected in the rear positions where driving friction will level off the uneven places. This method utilizes the spare tire, which is desirable, as by so doing the service life of all five tires is substantially extended. For example, if tires are rotated at 4000-mile intervals, when the car has traveled 20,000 miles each tire will have traveled only 16,000 miles. Further, any tire deteriorates quite rapidly if not put into service; it is better for

its future wearing qualities to use it rather than to let it go for months or years unused.

In method B, the rotation of each of the four tires is reversed at each change of position of the tires on the wheels, which is especially desirable when front tires have severe heel and toe wear (a type of defect that is usually due to a mechanical defect, too low air pressure, or to peculiarities of the driver's handling of his car). The method is simple, but it has the important disadvantage that it does not make use of the spare tire.

Method C is closely similar to method A and the two should be equally satisfactory.



Method A



Method B



Method C

## WATCHES

**Editor's Note:** The results of the timing tests of watches reported in this article will be surprising to many, and no doubt a number of jewelers will consider the findings unworthy of credence, because they go against the settled opinions in the trade. For instance, the watch referred to as having a reputation for very good performance but which actually did very poorly in the test conducted on samples taken at random from jewelers' stocks is a make that big-city jewelers would rate far above some of the watches that CR found to perform well. The reason for jewelers giving a high rating to the watch with the famous name would not be that the jewelers had made comparative tests of it, but that people in the trade believed it a better watch. Unfortunately that method, when no comparative technical tests are carried on, never suffices to resolve differences of opinion and doubts as to real performance of a watch on the consumer's wrist.

We shall be glad, if there is any watch manufacturer who would like to see additional tests made on his brands, to make arrangements by which such tests can be carried out if the manufacturer will agree in advance to authorize any or all of a number of jewelers who carry a sizable stock of his make to furnish samples on a loan basis to CR for the tests; provided further that the watches to be furnished will be on a strictly random basis, and exactly as such watches would be found by the average consumer in the jewelers' stocks, with no special arrangement for accuracy of adjustment of the watches to be tested or for their having been cleaned and oiled recently, to favor their performance in the test.

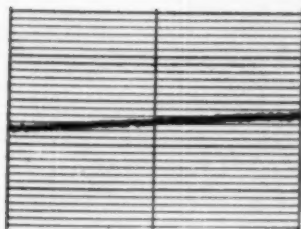
SOME months ago CR arranged to have a considerable number of watches tested for accuracy of timekeeping, in the condition in which the watches were found in jewelers' stocks. The watches studied ran to a total of about \$12,000 retail value and ranged from \$19.75 to \$450 in selling price. The makes included the well-known Elgin, Bulova, Hamilton, Gruen, Wiltmauer, Longines, Benrus, and Omega together with a number of less well-known brands. The tests were made on the WatchMaster Watch-Rate Recorder, an electronic timing device, an instrument (made by American Time Products, Inc., 580 Fifth Ave., New York 19) widely used by watch factories, and by watchmakers in the better jewelry stores in checking the "rate" or timekeeping accuracy of watches being adjusted or repaired for their customers. This instrument measures the *instantaneous timekeeping rate* of a watch, the amount by which it is running fast or slow in any position, within a few minutes, and also has high value to the watch adjuster or repairman in indicating defects within the watch mechanism such as incorrect adjustment of the hairspring, a wheel which is out-of-round, a bent arbor, a defective gear tooth, insufficient motion of the balance, and a score of other faults often difficult to locate by simple inspection of a watch or by timing in the old-fashioned way where a watch is compared with a standard clock once or twice a day, and what happens betweentimes often passes

unnoticed. Sample charts from the WatchMaster with comments on the significance are reproduced in Figures 1 and 2.

The most surprising result of the test was the indication that watches having a high reputation for good performance did not, in many cases, do as well as watches regarded as medium or ordinary grade. For instance, out of nine samples of a famous Swiss make regarded as one of the "aristocrats" in the watch field, two gave very good performance, five, moderately good, and two, poor. Of this make, the best performance was given by a watch at \$71.50 and one at \$60, poor performance was shown by a \$48.50 and a \$65 watch, and medium-good performance by watches priced at \$71.50, \$95, \$185, and \$200. Another watch (also a Swiss import, priced in a very much lower range, running from \$20 to \$70) gave timekeeping performance fully equal to that of the higher-priced make just described.

The best performance in the tests was shown by the Elgin; 21 of this make were tested. Over half of these, 11, merited an A rating; 7, a B rating; and 3, a C rating. The Elgins ranged in price from \$29.75 to \$250. (Price need not be given too much weight since in a good many instances the high price of a given watch is determined by an expensive case or by a superior reputation in the trade; nevertheless, it is significant and surprising to the consumer that he cannot be guaranteed the accu-





**Figure 1** — The above chart pattern is an example of a record of a watch movement having exceptionally good timekeeping qualities. This pattern, produced on an instrument called the WatchMaster Watch-Rate Recorder, consists of pin-point dots, each corresponding to one tick of the watch, closely spaced in a continuous line. This line is straight and continuous when the watch is inherently a good timekeeper. The ticks are picked up by a microphone device and fed to an amplifier system. The dots are imprinted on a chart paper wrapped around a drum rotating at an accurately constant speed of 5 revolutions per second. Each vertical division on the chart is equivalent to a deviation from accurate timekeeping of 5 seconds in 24 hours; hence, the watch producing the pattern shown above would show a gain of about 10 seconds in 24 hours. Only a very carefully adjusted (and expensive) watch will produce the same pattern in all positions, but any good watch should give patterns closely similar in the 6 positions in which watches are customarily tested.

what better than the Bulovas. Most of the Hamiltons received a B rating on timekeeping performance and there were only two that would be rated C. The prices of the Hamiltons tested ranged from \$57 to \$210.

It was noted that three makes which are commonly rated very high in the industry gave poor performance in the test, but this was admittedly on the basis of a small number of samples of each make. The average price of these high-priced watches was \$360.

The number of samples tested of some of the makes studied was too few to warrant generalization, because of the possibility of the individual watches being abnormal in some respect due to accidents of production or inspection by the maker or because they were kept overlong in the jeweler's stock, and so were in need of cleaning and oiling. (Some watches seem more susceptible than others to poor running when held overlong in stock, for in some cases

accuracy that should go with a high-priced watch merely because he has chosen to spend \$200 or so for his timepiece.)

Another watch that turned out fairly well, though it is not regarded as one of the top brands, was the Bulova; of this make 29 were tested—7 were considered to merit A, 11 B, and 11 C. These watches ranged from \$24.75 to \$79.50, or what would now be called a moderate price range.

The Hamiltons on the average performed some-

watches long in a dealer's stock gave very good performance, and in others, very poor. It happened that in this study the old-stock watches were for the most part watches of medium to large size, which are less susceptible than very small watches to poor running when in need of cleaning and oiling.)

One or two samples do not suffice to give a conclusive result in the test of a brand. In this respect watches are different from most appliances. The reasons are: First, there are no model numbers or yearly models by which the consumer might judge the elapsed time since manufacture; second, watches are subject to a strikingly high degree of variability from one sample to another, and from one size to another. This variability comes about because some watch parts have extremely small dimensions and call for very close fitting; even slight variations in lubrication will affect timekeeping accuracy, especially after a watch has been in use for some time. Thus the actual timekeeping performance of a watch is determined by a very large number of factors, some of which cannot be kept under constant close control. A further point, of course, is that, much more than other things commonly used by the consumer, a watch is a precision instrument and therefore a good deal more is expected of it in accuracy of fit of its parts and in accurate and steady performance than of other devices and instruments. An error of 10 seconds a day, for instance, a limit within which the best watches easily fall, is equivalent to an accuracy of one part in 8640, whereas many common instruments are considered to do well if they are accurate to a part in 50 or 100.

Perhaps the most valuable indication of this study is that the consumer has been giving too



**Figure 2** — The above two chart patterns were produced by one watch; that on the left with the watch in the "dial up" position and the one on the right, in the "crown up" position. To regulate such a watch so that it will keep correct time in both positions would require a major adjustment job which only relatively few watchmakers could do competently. In the "dial up" position this watch gains nearly 4 minutes a day; in the "crown up" position it loses about 2 minutes.

much weight to brand names and reputation, and that very good timekeeping qualities can be had in moderate-priced watches. A watch of a well-known brand may use either one of two movements, made by still another firm; under a *different brand name* the identical movement may be bought for \$20 less. This, of course, parallels the situation which occurs in many fields where consumers pay for a well-established name; with watches, the extra payment is not minor, as it might be with soaps or candies, but can amount to a very substantial proportion of the price of some of the higher-priced watches, so that a watch with a good brand name may sell at \$100 more than a watch performing equally well under a less well-known name. It may be the case that a given factory deserved its high reputation at a particular time and that it may have been "coasting along" on that after conditions as to quality, workmanship, and adjustment, relative to other makes, have changed.

It is correct that when there is no better information to go by, a consumer would do well to buy a watch of a brand name he knows by reputation, for his risks are certainly greatly decreased by that procedure, as compared with buying at random. On the other hand, our findings indicate that it is impossible for him to be guaranteed a good watch by simply choosing one of fine reputation or wide sale. Apparently he would do better to buy the least expensive jeweled watch of a make favorably rated by CR that seems suited to his individual needs, if the samples that were tested by CR's consultant were representative of the market at the time, and we know of no reason to doubt that they were.

There are some general principles that should guide all consumers in buying watches. First, no brand name is, in itself, a guarantee of quality in a particular movement. On the other hand, one should give no weight at all to claims of quality in a department store's advertising referring to an *unidentified* make of watch or one alleged to be a famous brand offered at a great discount. The store's statement about the high standing of the brand may be false, as it often is, or the particular watches offered by the store may be a well-known brand and still not good. It is a common practice to speak of a watch sold at \$64.50 alleged to be "worth \$135." Such claims are meaningless since the worth of a watch is the price at which it is sold, and there are no standards whatever that could justify the use of such a term as "worth" a particular sum, except as a means of deceiving the prospective customer. It would be unwise in any case to buy a watch on the basis of advertising that does not clearly state the brand or make, or if the dial shows a brand name that the consumer has never heard of.

Watch manufacturers have been most ingenious in regard to design for appearance so that a poor

watch now commonly has the appearance of a very good one. A \$6 watch may fairly closely resemble one at \$100 or more, unless the two are closely compared.

If you want to get the most for your money in buying a watch, stay away from luxury features, including the sweep-second hand, which is safely chosen only on watches in the \$100-or-higher class. Small watches, particularly, suffer from high and variable frictional resistance of the moving parts, which is a cause of reduced timekeeping accuracy; the sweep-second hand increases this difficulty. By all means, if serviceability is a primary consideration, give preference to a watch with a white porcelain dial, for metal-finished dials (usually silver) are likely to tarnish quickly and are expensive to refinish, and, in most cities, the watch will be out of the owner's hands for a month or two in order to have the dial refinishing work done at a specialist's shop in a distant big city. In general, where utility and cost of future repairs are important, avoid all watches having freakish or novelty features or any watch which is exceptionally small or thin. Self-winding watches can be good, but their price will be about \$20 above normal watches, and there will be an extra charge for the repair and cleaning of a self-winding watch or any other watch having unusual or novelty details. Do not in any case buy a cheap self-winding watch.

The number of jewels alone has come to mean very little; originally a 17-jewel watch was a high grade, though not the top. Many imported watches are now being offered in which the large number of jewels is *strictly for sales appeal*. A 17-jewel watch may thus be a poorly finished, unadjusted watch or it may be one of very good finish, adjusted to position, temperature, and isochronism. A good 17-jewel watch may cost more and be a better watch than a poorly made 21-jewel watch. The average consumer will have little use for a higher number of jewels than 17 unless he is buying a railroad movement, which calls for 19 to 23 jewels.

It will rarely be true that the consumer gets extra value in proportion to the extra charge in a very high-priced watch, above one or two hundred dollars. Anyone will be wise to assume that when he buys an extra-high-priced watch he is buying a luxury and a piece of jewelry rather than extra timekeeping value, for his money.

There are very-high-priced watches which do include features valuable to some persons, such as a calendar dial, sweep-second hand, or a chronograph movement. These may bring the watch up to the thousand-dollar-price class. (A plain *Le Coultre* watch without sweep-second hand or other features, but claiming to be "the thinnest watch in the world," was recently offered in Life at \$1950, of which \$325 is tax.) In exceptional instances, super-

ior timekeeping qualities *may* perhaps be a reason for charging a high price for a watch, but this sort of performance should never be taken on anybody's say-so. A movement that *really* keeps superior time should be accompanied by a Bureau of Standards' certificate of exceptional timekeeping, including known and proven close adjustment for temperature and position. The cost of such a certificate is from \$5 to \$15, according to the precision of the test — a small charge indeed when the retail prices charged for the really upper-bracket allegedly super-accurate watches are considered. It should be noted that the Bureau of Standards certificates do not apply to wrist watches. Wrist watches tested by the Bureau of Standards, ranging in size from  $\frac{3}{8}$  inch to 1 inch in diameter and having either 15 or 17 jewels, were found to give errors as high as 60 seconds a day when positions and temperatures are not kept constant, with greater errors for the very small watches, such as baguettes. The Bureau found that watches having few or no jewels, and usually selling up to about \$25, are seldom good timekeepers and may vary five or more minutes a day, regardless of advertisements representing them as precision timekeepers. (The watches tested by the Bureau were new and furnished by the manufacturers, whence it may be presumed that they would give considerably better performance than watches offered in retail stores, where the watches of the types tested would usually be priced from \$40 to \$100 "in ordinary gold cases.")

The best way to be fairly sure of getting a fine timekeeper without buying a Bureau-of-Standards-certified watch is to buy a railroad watch, to be discussed later.

The consumer must remember that there is no test that can be made of various makes of watches that can assure him that the *particular watch he buys* will be and remain a reliably accurate timekeeper. Watches of the very best makes occasionally perform very poorly and, *even if the watch is a high-priced one providing a liberal profit margin*, it may be impossible to get satisfactory adjustments made by the jeweler or the manufacturer. The trade is not set up well in order to take care of replacement or refund on the occasional bad watch giving poor timekeeping performance or irregular running that may happen with any make.

Where getting the most for one's money may be important, it will rarely be wise to buy a watch with a solid gold case, for if one wants to turn it in on another watch or sell it later, such a watch will not have a market value much above a similarly good movement in an ordinary case. The extra amount in the price for a gold case is large (say \$150 on a man's wrist watch) but the turn-in or bullion value for such a case would be very small, perhaps

only \$15. For example, one make and model of watch in a 14K gold case sells for \$210, and in a gold-filled steel-back case the same watch is priced at \$70. Watches in *gold-filled* and *steel* cases of one make are sold at exactly the same price.

Any dealer may at times sell the consumer an unsatisfactory watch, but it is better, nevertheless, to buy a watch from a regular jeweler handling a sizable stock of watches than from a department store. While department stores sell a great many watches, their knowledge of watches is almost invariably at a low level and they are not so likely to handle the problem of a defective watch in the responsible way in which a good jeweler often will. It is poor practice, too, to buy a watch in a store which is in a town a long way from home, as handling adjustment or refund for defects or difficulties by mail is likely to prove very unsatisfactory.

The cheapest watches are almost sure to be of the pin-lever type, which is jewelers' language for the kind of movement used in watches known as "dollar watches" in "pre-inflation" days (now priced at \$2 to about \$10 or \$12). The pin-lever movement is the same in general design and workmanship as that used in alarm clocks. Such watches will have a relatively short life and an unreliable one. A large watch of this type may have its place for harvest hands, farmers, and others doing heavy work where a watch is subject to damage from shocks, perspiration, perhaps loss by falling from the pocket, etc., and where it is important, therefore, that the investment should be small because it may be short-lived. Anyone acquainted with secondhand watch dealers (to be found in most big cities) will find that a 12 or 16 size, 7 to 15 jewel pocket watch of any well-known make, in good running order, purchased second hand, will often be a good deal cheaper over a period of years than one of the \$5 to \$10 watches having pin-lever movements, particularly if the low-grade watch is a wrist watch.

The non-magnetic feature is an improvement in watches which is very convenient for a person working near electrical machinery or in radio or power stations; anyone is likely to get his watch magnetized at some time or other. The non-magnetic watch will not keep quite as accurate time as one having the normal hairspring and balance that are subject to derangement by magnetism, but the difference is small and it is believed that, for many people, the non-magnetic hairspring and balance will be a distinct advantage.

Always plan to buy the largest watch that will be convenient for your needs; that is the most practical way to assure good timekeeping and long-lasting qualities. In CR's tests, larger watches almost always gave better average performance than the smaller ones. For instance, in the wrist watches,

8/0 and 6/0 American watches gave relatively good performance; the corresponding sizes of Swiss watches likewise gave better performance than other sizes. A large watch may easily go three or four times as long without cleaning and oiling as a small one and a pocket watch will be far less susceptible in its accuracy to the personal habits of the wearer than a wrist watch. Jewelers consider, for instance, that a  $1\frac{1}{2}$ -minute-a-day deviation is about as good timekeeping as a wrist watch can provide; a pocket watch can do much better than that, especially if it is of good size and not one of the ultra-thin movements. It will just be luck if a wrist watch gives good timekeeping, particularly a small one or one priced under \$100. A pocket watch will not only keep better time and require much less care, but it will give much longer life, perhaps through a man's whole lifetime, whereas a woman's jeweled wrist watch is said to have a life expectancy of only two to five years, and will require frequent cleaning — and perhaps cause trains or buses to be missed from time to time. The best of the pocket watches available in a reasonable price bracket are the watches made for railroad men. These normally keep very good time because they have to be well made and carefully adjusted in order to pass railroad inspection. They are now sold in 16 size only and their prices, when not in a case made of precious metal, run at about \$70 to \$90. Used ones may cost \$40 to \$50.

With regard to railroad watches, the consumer should bear in mind that many watches have been sold whose manufacturers call them railroad movements but which do not meet certain critical requirements. A New York City watch dealer, for instance, advertised a "Railroad Precision Timepiece" asserted to be "extremely accurate" and equipped with a "17 jewel precision movement." Such a watch, even though its dial is marked "Railroad Precision," does not meet railroad requirements. There have been many parallel cases in the watch trade, where railroad grade or performance is implied but not clearly stated, including a guarantee of your money back if the watch fails to pass railroad inspection on one of the major or transcontinental railway lines. Misrepresentation goes so far that in some cases watches represented as railroad watches have been notably fraudulent in character and their movements crude imitations of railroad movements that could deceive only the uninitiated. Sometimes a picture of a locomotive on the dial has been used to imply railroad accuracy. In some such cases, the jewels were only imitations of real watch jewels, just fastened to the watch plates in a way to catch the eye but not actually functioning as supports and guides for the moving pivots of the watch.

Since very high performance is expected of a railroad watch, the purchase of one at second hand by a person who does not have some familiarity with

watches or who is not able to buy one on a "money-back" basis if it fails to meet the full approval of his watchmaker or pass the railroad inspection, is fraught with exceptional hazard.

There are two systems in common use for designating watch sizes: one based on the French *ligne* which is equal to about  $1/11$  of an inch or 2.26 millimeters, and the other on the English inch. The latter system establishes size 0 as a watch with "pillar plate width" of  $1-5/30$  inches. Each increase in size of a whole number indicates an increase of the pillar plate width by  $1/30$  of an inch, i.e., size 1 would be  $1-6/30$  inches; size 2,  $1-7/30$  inches, etc. (When the movement is not round, the measurement is made across the shorter diameter.) Watches smaller than size 0 decrease by 30ths of an inch below  $1-5/30$  and are designated 2/0 for  $1-4/30$  inches, 3/0 for  $1-3/30$  inches, etc. It is an unfortunate fact that neither regular jewelers nor the large mail-order houses include the sizes of their watches in their catalog listings; thus the consumer, when ordering by mail, will not know whether he will get a movement of the size he prefers, a fact which may be very important in some cases. A much better and more logical system of size designations is badly needed and should be adopted by the trade.

In buying a new watch it will be a wise safeguard to procure a clearly and legibly written and plainly worded, dated sales slip, specifying *make of movement, number of jewels, number of adjustments* (often plainly marked, directly on the movement, in the better watches), *metal and quality of case*, in specific terms. (If the watch is secondhand, the sales slip should indicate that too.) According to the U.S. Tariff Commission some watches stamped "Unadjusted" may be of high quality with a number of adjustments; the stamping "Unadjusted" reduces the amount of tariff, which is 50 cents for each position adjustment and temperature adjustment. The tariff rates are complicated, but, as an example, it may be stated that a 17-jewel watch takes a tariff of \$1.80 to \$2.70 in addition to charges for adjustment already mentioned. There is an additional tariff of 50 cents on movements that run more than 47 hours with one winding or which have self-winding features. On watches with more than 17 jewels the tariff rate is \$10.75.

Any watch which has been in a jeweler's stock for six months or more should be cleaned and oiled by the dealer before it is sold to the customer (depending on size of the watch; the smallest watches will lose timekeeping accuracy in stock much sooner than the large watches).

People often have completely false ideas about what a watch can do in regard to timekeeping. Someone may tell you that a wrist watch will go for months on end keeping perfect time. This is not possible, but when something approximately corresponding to the statement has occurred, it



means simply that the positive errors, which may have been quite large, have balanced out the negative errors; it does not mean that the watch has kept correct time between times. Two minutes per day would be average performance for wrist watches of good size; smaller watches would be expected to give somewhat larger errors;  $\frac{1}{4}$ -minute error per day would be considered exceptionally good performance. The variability of the wrist watch can be seen from the fact that it is deliberately adjusted to keep fast time in the shop when not being worn, so that it will give fairly correct time when on the user's wrist. Position and isochronism errors (the latter is the error which varies according to the extent to which the mainspring is run down) are very much greater in wrist watches than in pocket watches, and grow worse with time.

Do not hesitate to wind a watch fully until the stem stops, but slow up the winding when the watch seems almost wound. It is a common experience with jewelers that a customer brings a watch in for repair when nothing is wrong except that it has stopped because the user has not wound it fully; some people evidently think that a little winding of a watch is enough.

The following listings are based on tests of watches of respective brands as taken in mid-1951 from jewelers' stocks in Eastern Pennsylvania and New York. Watch names followed by an asterisk (\*) represent instances where the number of samples of watches tested was too small perhaps to afford a basis for more than a limited and tentative judgment.

### Wrist Watches

#### A. Recommended

Doxa\*, Elgin, Marquette\*, Pedre\*, Vulcain\*.

#### B. Intermediate

Beurus, Bulova, Certina\*, Croton, Gruen, Hamilton, Longines, Mido\*, Omega, Universal, Wittnauer.

#### C. Not Recommended

Schild.

### Pocket Watches

There were a few pocket watches in the test; the samples tested of the following A-rated makes gave good performance. With few exceptions, the pocket watches performed better than the wrist watches tested.

#### A. Recommended

Helbros\*, Hamilton\*, Elgin\*, Bulova\*, Omega\*.

#### B. Intermediate

Universal\*.

### Railroad Men's 16 Size American Pocket Watches

The following watches were not included in the present test, but the information about them is given for the benefit of those who may wish a pocket watch of established good timekeeping performance.

#### A. Recommended

Elgin B. W. Raymond Grade 571. 21 jewel.

Hamilton. 992, 21 jewel; 950, 23 jewel.

Ball. 21 and 23 jewel. Movements made by Waltham, Hamilton, or Elgin, and cased and timed by The Webb C. Ball Watch Co.

Illinois. No longer being made, but some still available second hand.

### Watches, Top-Grade Pocket or Wrist (Swiss)

In the following group are some makes of watches that were not included in the test but which have a superior reputation. The makes named are all relatively expensive ones, and where cost is no objection, a person who buys one of these watches has a high probability of obtaining one of very fine mechanical finish and workmanship and good performance; most of these watches are of brands which may be expected, except for an occasional defective sample, to give better performance than most of the watches in the test, which were in a much lower price bracket in all except a few cases.

Makes of watches marked with a plus sign (+) are among those which have especially high reputations in informed sections of the trade.

#### A. Recommended

Touchon (Div. of Longines), International, Audemars Piguet+, Zenith+, Nardin+, Patek Philippe+, Movado, Agassiz.

### Dealers' Problems in Correction of Defects of New Automobiles

A SUBSCRIBER reports that an automobile dealer in Milwaukee, representative of one of the largest automobile manufacturers, states that his firm is lucky if they can collect 35 percent of the money they spend on making good on defects of automobiles originating in the factory. Inquiry has indicated that other dealers are in much the same boat. The nature of dealers' contracts with manufacturers is, therefore, of some importance to the consumer, for if the contract is an unsound one, putting undue burdens of repair costs on the dealer, the dealer will often, in order to protect his own business interests, try to avoid making good on factory defects even when they are of a gross or serious kind.

## Off the Editor's Chest

(Continued from page 2)

could secure a rise in wages for their members by applying political pressure, are beginning to murmur. One labor union official belatedly pointed out, what many have known for a long time, that the present rate of taxation *lowers the standard of living for the great majority of American families*. What he did not add, but might have, was that the American consumer is rebelling against the present high prices charged for many of the things that he buys and it is becoming increasingly difficult for labor union bosses to put through higher wage demands for their members because such increases can no longer be passed along to consumers. The low state of demand for new garments in both the men's wear and the women's field had such a serious effect on employment in the clothing trades last year that one newspaper columnist reported there was a plan afoot to rehabilitate the South Koreans with made-in-U.S. clothing, at the expense of U. S. taxpayers, in order to ease the clothing trade's unemployment problem. It is at long last becoming appreciated that as the late President Roosevelt said: "Taxes are paid in the sweat of every man who labors because they are a burden on production and can be paid only by production."

The reduction in the consumer's standard of living brought about by taxes, which now amount to something like a quarter to a third of his income, has been particularly hard to take in the light of scandalous abuses of the public trust in the Internal Revenue Bureau, the official collector of federal taxes. Testimony of tax shakedowns, tax "fixes," free airplane rides and accommodations at luxury hotels for federal tax officials, and special rates on mink coats for the wives of public officials that made headlines last December at a time when consumers had about given up the idea of having "one more big Christmas" undoubtedly contributed to a feeling that the federal government was spending its way into bankruptcy, both financial and moral, and that people had better save their money against some kind of crash that may result. The

habit of thrift as a safeguard against a rainy day is one that has an old and honorable tradition in this country. There are still many who believe that they can take care of their own financial futures much better than the federal government can, despite the heavy pressure of welfare state propaganda to which they have been subjected for nearly two decades.

The oft-expressed bewilderment of government officials and their economic advisers over the seeming paradox of money in consumers' bank accounts and their refusal to buy in the quantities needed to keep the nation's businesses operating in high gear in the face of repeated warnings of forthcoming shortages is perhaps one of the best reasons why the consumer should try to make personal provision for his own future. In spite of the fact that many federal officials are schooled in the theory of the "planned society" and their advisers are well trained in economics and sociology, including public opinion surveys, they seem to be insensitive to the fact that there is a point beyond which it becomes economically, as well as politically, unwise to soak the consumer.

There are significant indications that this point has now been reached — or passed. If consumers in this country either cannot or will not make their purchases of commonly available products at a rate and on a scale sufficient to keep factory assembly lines, workshops, and service trades operating on a brisk scale, active production of munitions of war on a huge scale is the only thing that can keep the U. S. economy (temporarily, of course) from a disastrous tailspin. If there is such a cessation of buying, consumers who have saved their money will pick up bargains in distress merchandise, or will have sufficient funds to tide them over a period of slack employment. The present political regime came in on a wave of economic depression when the advice freely circulated was "Buy now! Prosperity is just around the corner." It would indeed be a grim jest if the consumer's refusal or inability to buy in the present market, partly or largely determined by the weight of the tax burden he bears, were to be the cause of another such period of distress and breakdown of normal incomes and economic relationships.

### Abridged Cumulative Index of Previous 1952 Consumers' Research Bulletin

Month and Page	Month and page	Month and Page
Anemia, moth ball ..... Jan., 3	Glass-block panels, problems ..... Jan., 4	Plants, pinch, limited serviceability ..... Jan., 29-30
Anti-freezes, valuable publication ..... Jan., 23-24	Headache sufferers, sometimes victims of glaucoma ..... Jan., 4	Septic tanks, use of synthetic detergents ..... Jan., 4
Baby carriage, portable combination? ..... Jan., 13-14	Hormone drugs, self-medication, danger ..... Jan., 4	Slide projectors and table viewers? ..... Jan., 20-21
Batteries, automobile storage, scarcity of basic materials ..... Jan., 3	Inks, writing? ..... Jan., 25-26	Sponge, kitchen, stainless steel? ..... Jan., 30
Carburetor troubles, automobile ..... Jan., 14	Iron cord guide? ..... Jan., 12	Steel tapes and tape rules? ..... Jan., 15-16
Cleaner, for brass, copper, and bronze? ..... Jan., 30	Irons, steam? ..... Jan., 5-9	Television receivers? ..... Jan., 10-12
Clothing, decreased sales ..... Jan., 29	Meat, pre-packaged, sales resistance ..... Jan., 29	Television screens, color, poor results ..... Jan., 3
Diet, effect of, in later life ..... Jan., 4	Motion pictures? ..... each issue	Ties, men's, decreased sales ..... Jan., 3
Dry-cleaning problem of new metal-insulated lining material. Jan., 3-4	Obesity, new control theory ..... Jan., 3	
Editorial ..... each issue, page 2	Photograph records? ..... each issue	
	Pitcher, insulated? ..... Jan., 9	

Indicates that listings of names or brands are included.

## 8 mm. Motion Picture Cameras

**A**s only exceptionally good 8 mm. equipment is capable of producing movies that, as projected, compare favorably with results achieved with even mediocre equipment for 16 mm. film, no equipment for 8 mm. film is given a rating higher than *B. Intermediate*. This judgment is not intended to discourage use of 8 mm. motion picture equipment for persons who feel they cannot afford to own and operate a 16 mm. camera, or those who favor the 8 mm. film because of its economy and because they find its definition and performance in other respects satisfactory for their purposes.

The intending purchaser of an 8 mm. camera will be interested to know that it will cost only 35 to 40 % as much to operate, for the same projection time, as a 16 mm. outfit, this in spite of the fact that black and white "double-8" film sells at about 60 percent more per foot (16 mm. wide) than the regular 16 mm. film; 60 percent appears to be an unwarrantedly high markup to cover the obviously small cost of splitting and splicing the "double-8" film.

The price of a new motion picture camera or projector in the 8 mm. size will be about 60 to 80 percent of the price of a camera or projector of equivalent quality in the 16 mm. size.

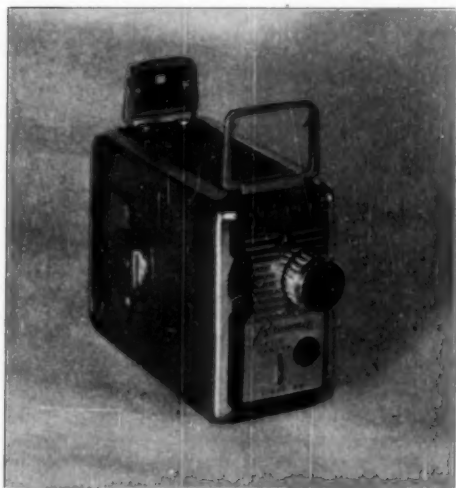
### B. Intermediate

*Kodak Brownie* (Eastman Kodak Co., Rochester 4) \$43.30; carrying case, \$3.40. Had coated *f/2.7 Ektanon* lens of 13 mm. focal length. Used "double-8" film. Had one

speed only (16 frames per second). Click stop diaphragm located in front of lens instead of usual iris diaphragm. Open frame view finder. Total 9-ft. run of camera not usable on one winding since motor slows down toward end of run. Results obtained were satisfactory for 8 mm. Camera sturdy but somewhat bulky.

*Bolex L-8* (Paillard Products, Inc., 265 Madison Ave., New York 16) \$97.50, including tax, with *f/2.8* coated *Var* lens. 12.5 mm. focal length in fixed-focus mount. \$116.50, including tax, with same lens in focusing mount, focusing from  $\frac{3}{4}$  ft. to infinity, and soft leather case. Used standard "double-8" film rolls. Rated speeds of 12, 16, 24, and 32 frames per second. View finder had masks to show view obtainable with 25 mm. and 36 mm. lenses that could be substituted for the 12.5 mm. lens. Motor ran smoothly and quietly, feeding about  $6\frac{1}{2}$  ft. of film per winding; it shut off with a definite click stop (desirable). This camera was found to be equivalent mechanically and optically to the best of the 8 mm. cameras previously tested and was a great improvement over the *Bolex L-8* tested and reported in 1948.

*DeJur Citation DC-600* (DeJur Amasco Corp., 45-01 Northern Blvd., Long Island City 1, N.Y.) \$77.50, including federal excise tax, with coated *f/2.5 Wollensak Raptar* lens of 13 mm. focal length, in fixed-focus mount. Used standard "double-8" film. Shutter speeds, 12, 16, 24, and 48 frames per second. Simple spring-loaded film gate made film loading easy. Handy exposure guide on side of camera. Motor ran sometimes 7 ft. and sometimes 8 ft. for each full winding, slowing down at end of run; it had no definite stop (a stop is desirable). Button for operating camera sometimes stuck and caused camera to continue to operate when this



*Brownie Movie Camera*



*Bolex L-8*

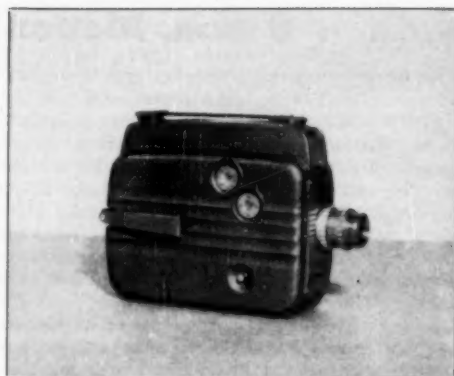


DeJur Citation DC-600

was not intended. Pictures were reasonably sharp but not as good as those made by the Bolex L-8. **2**  
*DeJur Citation DC-800* (DeJur Amsco Corp.) \$87.50, including tax. Same as DC-600 except for universal focus lens. **2**

#### C. Not Recommended

*Kodak Reliant* (Eastman Kodak Co., Rochester 4) \$82.30, including federal excise tax, with coated f/2.7 Kodak



Kodak Reliant

*Cine Ektanon* lens of 13 mm. focal length in fixed-focus mount. Used standard "double-8" film. Shutter speeds, 16, 24, 32, and 48 frames per second. Simple spring-operated gate made loading easy. Had *Cine-Kodak Universal* guide to indicate exposures for all Kodak films. Motor ran approximately 3 ft. for each full winding (instruction book claimed about 5 ft.). Slowed down toward end of run with no definite stop. Considerable vibration and noise in operation. At rated speed of 16 frames per second (the speed normally used) the number of frames per second was actually significantly below 16. Pictures were not sharp; otherwise would be rated *B. Intermediate*. **2**

## Corrections and Emendations to Consumers' Research Annual Cumulative Bulletin (ACB) and Monthly Bulletins

Asbestos-Cement  
 Shingles  
 Col. 378  
 ACB '51-'52

Delete listing of *Mohawk Tapered Asbestos Shingle*. The present address of the Mohawk Asbestos Shingle Co. is unknown.

Sewing Machine  
 Conversion Kits  
 Page 14  
 May '51 Bulletin

This article states in column 2, page 14, that "Tests were made to determine ease of installation by mounting each motor on a *Singer 66* machine." Some motors were also mounted on a *White* machine. The *Kenmore Model 117.617* (Cat. No. 60713) listed, for example, was tried on the *White*. (*Kenmore*, Cat. No. 60715, is the kit that is intended to be used on the *Singer 66* sewing machine.) We note that the *Kenmore* kits are

not listed in the 1951-1952 Fall and Winter or 1952 Spring and Summer Sears' catalogs.

Disk and Tape  
 Recording  
 Page 8, Col. 1  
 Oct. '51 Bulletin

The latest model of the *Ampex* tape recorder is now sold at about \$2000 instead of the \$4000 implied near the end of paragraph 3.

Refrigerators  
 Page 24  
 Dec. '51 Bulletin

In fourth line of correction on *Crosley Shekador SAC9*, an electric refrigerator reported in the September and October BULLETINS, the words "an abnormal one" should read "a normal one" (as the context indicates). The particular refrigerator reported in the September and October BULLETINS was found not to have been a *normal* one.



## Brief Reports on Radio-Phonograph Components, Amplifiers, Tuners, and Accessories

SINCE SPACE has not been available in the monthly CONSUMERS' RESEARCH BULLETINS for inclusion of complete or detailed listings of all the high-fidelity audio components tested, and because a considerable number of our readers have no great interest in these items, CR has, for the past two years, included in highly condensed form in the *Annual Cumulative Bulletin* certain listings which had not appeared in a regular monthly BULLETIN. Although listings in the *Annual Cumulative Bulletin* were brief and gave no details of our findings, space was available for inclusion of all components which had been tested during the previous year and, in addition, certain models which had been tested earlier but were still representative of the current production. Audio fans to whom these matters seem of the greatest importance should bear in mind that 99 percent of consumers will find such terms as equalizer-amplifier and preamplifier entirely unfamiliar and in any event will consider such items, meaningful and important to the expert, to have no particular importance in their homes.

All pertinent material on high fidelity, together with listings of the various components, appears in one place in the *Annual Cumulative Bulletin*, and subscribers interested in a "custom" assembly radio-phonograph combination can conveniently find there the information they need.

It is hoped that we shall be able to include brief listings of new items in the monthly BULLETIN as the test results become available. Readers should bear in mind that as to most of these subjects other items of a related nature will be found in the *ACB*, together with a considerable amount of text dealing with application, advice on choice of parts for assembled systems, etc. To the extent that space is available, we shall try to include in the monthly BULLETINS very condensed listings of some of the more recent items of interest to "high-fidelity" enthusiasts, in some cases items already reported very briefly in the *ACB*.

### Amplifiers

#### B. Intermediate

*Grommes 50 PG* (Precision Electronics, Inc., 641 Milwaukee Ave., Chicago 22) \$48.75. Rated at 10 watts output. Input connections provide for practically any input condition user may desire, including microphone. Method of connection and switching combines the flexibility of both the *Thordarson T32W10* and the *Bell 2122* amplifiers. Tone control action, good. Distortion of output in bass, below 100 cycles, considered relatively high — 4.5% distortion at 100 c.p.s. with 5 watts out-

put; in this respect the *Thordarson* is a better amplifier. Noise level was 65 db. below 10-watt output level (noise was mostly hum). In spite of the special flexibility in application of the *50 PG*, its use is not recommended where the highest obtainable tone quality is expected; it is considered suitable for use with such single-unit speakers as *Electro-Voice SP-12B*, *General Electric S1201D*, or *Permo-Flux*, 8 in. cr51 1  
*Bell 2145* (Bell Sound Systems, Inc., 550 Marion Rd., Columbus 7, Ohio) \$175.50. An all-triode amplifier having a large, heavy chassis carrying all power components and all input and output connections and a small remote-control chassis, cable connected, in which switching and control functions are accomplished. This amplifier had the most complex circuit of any amplifier tested to date; this accounts for its high cost of production; it also increases the likelihood of malfunctioning; and limits considerably the number of technicians who will be able to service the unit competently. Compensating networks considered poorly executed for equipment in this price range. Output transformer was of really fine quality. Basic amplifier section gave 24 watts output at 400 c.p.s. with 2% distortion, 16 watts at 40 c.p.s., somewhat more than the *Audio Pacific Model 3*, slightly less than the *Brook 10C3* at these points. During a protracted listening test (7 weeks), the noise background and less satisfactory frequency response became definitely noticeable on the *Bell 2145* in comparison with the *Brook 12A3*. Except for power output capabilities, the *2145* was not noticeably more desirable than the manufacturer's *Model 2122A* at \$49.50. cr51 3

### Equalizer-Amplifier, Preamplifier, and a Compensator

#### A. Recommended

*General Electric SPX-001 Preamplifier* (General Electric Co., Syracuse) \$7. Obtains operating voltages from companion amplifier or radio with which used. *Model UPX-003*, priced at \$10.50, includes a self-contained power supply. 1

*McIntosh Equalizer-Amplifier, Model AE-2* (McIntosh Lab., 910 King St., Silver Spring, Md.) \$74.50. 5 input channels for crystal pickup, variable reluctance pickup, radio, phonograph, and microphone. Separate bass and treble controls. Excellent signal-to-noise ratio, very low-distortion. While the unit performed under test very much as it is claimed to be by the manufacturer, it is CR's opinion that treble boost should be available in highly refined equipment such as this unit, at more than one turnover point, and that it should flatten out within a rather narrow range above this point as was done in the design of the controls on the *Brook* amplifier. The *McIntosh* tone controls give simple one-turnover variable-slope configurations, not more advanced or flexible in design than those on many inexpensive amplifiers. 3

*Pickering 130H Phono Preamplifier* (Pickering & Co., Inc., Oceanside, N.Y.) \$24. Self-contained power supply. Quiet operation, with adequate bass response. Rugged and dependable construction; easily installed. 3

*Pickering 132E Record Compensator* (Pickering & Co., Inc.) \$12. Used with the *Pickering 130H Phono Preamplifier*, the compensator is a valuable yet inexpensive method of improving record-play-back quality when used with wide-range low-distortion equipment. With preamplifiers other than the *Pickering 130H*, a 47,000-ohm input resistor will normally need to be installed in the phonograph-input channel of the main amplifier in place of the resistor regularly present. 3

### B. Intermediate

*Fisher PR-4 Phonograph Preamplifier* (Fisher Radio Corp., 41 E. 47 St., New York City) \$12.60. Built-in power supply. Unit was equipped with 22,000-ohm input resistor; satisfactory for use with *Pickering* cartridges. Resistors for use with *GE* and *Audak* cartridges also provided. Hum level desirably low, but not so low as that of *Pickering* or *GE* preamplifiers. Gain, adequate. In over-all characteristics, considered less desirable than

*Pickering* and *GE* preamplifiers. Bass compensation inadequate due to use of 250 c.p.s. (too low) turnover point. 2

## AM-FM Tuner

### A. Recommended

*Radio Craftsmen AM-FM Tuner RC-10* (The Radio Craftsmen, Inc., 1617 S. Michigan Ave., Chicago 5) \$131.50. Armstrong FM circuit; conventional superheterodyne on AM. Built-in preamplifier for magnetic pickups corrects properly only down to the 150-200 cycle region with the result that the electrical output from a record becomes increasingly deficient below this region. A separate preamplifier of adequate design, such as the *GE* or *Pickering*, should therefore be used. (The user should set the preamplifier-selector switch to "CRYSTAL" position and connect output of separate preamplifier into "PHONOGRAPH" input jack on the *Craftsmen*.) Automatic frequency control. Drift from station setting, negligible. Excellent sensitivity and selectivity. Low distortion. Tone control did not offer a great deal of variation, but distortion in every position was very slight and noise level very low. 3

## Electrolunch

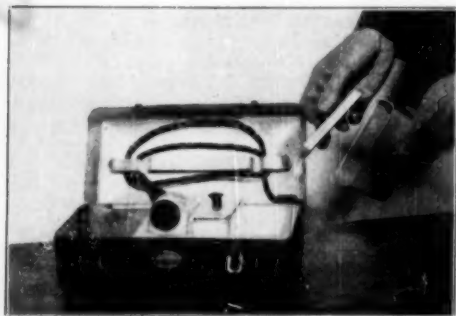
### An Electrically Heated Lunch Box

THE man who must carry his lunch and the woman who must pack it for him are almost certain to get tired of sandwiches and coffee. For them, the *Electrolunch*, a lunch box containing a thermostat-controlled heating unit, would certainly seem to afford a part of "the answer to the lunch preparing problem" as the manufacturer claims. The idea of being able to prepare a lunch which can be heated later on where it is to be eaten simply by plugging in an electric cord is certainly an attractive one.

The *Electrolunch* contains a screw-topped beverage glass of special shape that holds 8 ounces (one

cup, not two as claimed), and two covered aluminum food containers ( $4\frac{1}{2} \times 1\frac{7}{8} \times 2\frac{3}{8}$  inches) large enough to contain a good-sized portion of meats and gravies or vegetables. In addition, there is an unheated compartment large enough to hold several sandwiches or pieces of cake or pie that should not be heated. A 36-inch electric power cord is carried on a clip, inside the lid. Directions say that the food in the food containers will be heated in 15 to 20 minutes to 140°F, a temperature that is to be controlled by the thermostat.

In actual practice, a tomato soup in the aluminum containers was heated to 125°F in 20 minutes — hot enough to satisfy most soup eaters. Water in the glass bottle provided for beverages was heated to a somewhat lower temperature. When the *Electrolunch* was left plugged in for as long as 60 minutes, the food did not get too hot. Water in the aluminum vessels reached the boiling point in that time, but it is doubtful that stew or potatoes would get so hot. If they did, they might scorch, but would likely cause no damage. Water in the glass bottle remained well below the boiling point, which is advantageous, from the safety standpoint. CR believes that, in the interests of safety, the box should have some sort of a signal light to show that it is plugged in, as should all appliances which do not give any other outward indication of being in operation.



During CR's tests, the temperature of the table top on which the *Electrolunch* was resting reached 150°F, which is close to the safe limit for repeated exposure on a varnished surface. The maker cautions the user against placing the box on any surface that might be damaged by heat, but it would be better if the bottom of the box were somewhat better insulated.

CR had two of the boxes, both for use on 110 volts alternating current. The first one, purchased from the factory, had a defective thermostat which allowed the box to heat up to much too high a temperature. This unit was returned and replaced at no charge. The second unit successfully passed a 900-volt proof-leakage test, and shock hazard as indicated by leakage current was negligible.

## B. Intermediate

*Electrolunch* (Electrolunch Co., Inc., 9300 Stone Rd., Algonac, Mich.) \$12.95. A metal lunch box having a thermostat-controlled electric heating unit. Had two covered aluminum food containers, a screw-topped beverage glass of special shape, and a 36-in. cord. Rated at 350 watts; actual, 350 watts. Size, 12 x 5 $\frac{3}{4}$  x 5 $\frac{3}{4}$  in. Weight, 2 $\frac{3}{4}$  lb. Well made in general. The first sample had a defective thermostat; the second sample operated satisfactorily. *Electrolunch* would have received an *A-Recommended* rating if bottom of box had been better insulated and if there had been some sort of signal light to show when the box was plugged in, and if thermostat action were carefully checked as a part of the factory inspection routine.

## Storage of Frozen Foods in the Refrigerator

THE ACCEPTED METHODS used by the industry for technical tests on household refrigerators do not at the present time include tests or standards for the temperatures maintained in the freezing compartment. Our readers will know that the current trend in refrigerator design is to provide a freezer compartment extending across the full width of the top, so as to provide a considerable increase in the space available for the storage of frozen foods. With this change in design, the maintenance of a low temperature in the freezer compartment has become very important. Not unnaturally, the average consumer will suppose that so long as food in a freezing compartment remains frozen hard, it does not deteriorate. This is not correct, for frozen foods stored at even as low a temperature as 15 degrees below the freezing point develop objectionable changes of a chemical and enzymic nature. (Enzymes are organic substances, usually proteins, having the power to accelerate certain chemical reactions that occur in the life process of plants and animals.) Even at temperatures below 0°F, deterioration goes on, though much more slowly than at temperatures between 15° and 32°F.

Poultry stored at 15° or higher rapidly loses flavor and will develop an unpleasant flavor, but roasts of beef if properly packaged can be kept at 15° for about two weeks. Fruits and vegetables quickly lose their vitamin C content if stored at temperatures above 15°. Ice cream, particularly

very good ice cream, which has a relatively high butterfat content, deteriorates rapidly and becomes too soft even at 15° below the freezing point. For storage up to a month, most ice creams should be kept at least as low as 10°. For longer storage, the temperature should be zero or below.

In CR's opinion, it would be logical to require that any refrigerator having a frozen-food compartment of considerable capacity, or one running across the full width of the food storage space, and intended for the storage of frozen foods for a considerable period of time (say up to six weeks), should be so designed that it will, under normal operating conditions and even when the room temperature or outdoor temperature is very high, be able to maintain a temperature of 10° or lower in the freezer space. It should be able to do this without causing the temperature in the food storage compartment to go much below 43°. (Even a lower temperature than 10° would be desirable, but certain difficulties in design make it impracticable to achieve much lower temperatures without introducing the hazard that the storage compartment in the refrigerator may in some parts or at some periods go to a temperature below the freezing point, which is obviously undesirable.)

The table on page 24 gives the air temperature in the freezer compartment of several refrigerators with the control set to give a temperature in the general storage compartment of 43° with a room temperature of 90°.

	Temperature in Freezer Com- partment
<i>Crosley SAC-9</i>	5°
<i>International Harvester HA-84</i>	17°
<i>Servel Electric BR-846</i>	17.5°
<i>Westinghouse DFC-8</i>	21°
<i>Philco F-915, F-1115</i>	24°-26°
<i>Kelvinator HR-R, AH-R, HM-R, AS-R</i>	17°-29°
<i>General Electric LC-8-HC</i>	25.5°

Only the *Crosley* in the group included in the table maintained a satisfactorily low temperature in the freezing compartment when the food storage compartment was at an average temperature of 43° (considered the most desirable temperature for general refrigeration). When controls were set to give a temperature in the freezing compartment of 10°, *Westinghouse DFC-8* and *Philco F-915* had temperatures in their general storage compartments of around or below freezing, which is, of course, undesirable. The *Crosley* had a temperature of 5° in the freezer compartment and 43° in the storage compartment. This test was not made on the *General Electric LC-8-HC*, *International Harvester*, *Servel Electric*, *Philco F-915* and *F-1115*, or the *Kelvinators*.

Desirably low temperatures in the freezing space can be achieved only by additional consumption of electricity (corresponding to higher monthly operating costs), and if the present type of full-width freezing chamber is to be continued in future models, it would seem certain that most manufacturers would have to redesign their refrigerators in order to provide temperatures of 10° or lower in the freezing space, and 43° or thereabouts in the general food storage space. Readers should perhaps be reminded that the new boxes are not entirely desirable from the standpoint of food preservation for the reasons already given, and because, in order to obtain satisfactory temperatures in both the freezer and storage compartment, cost of operation will increase about 35 to 50%. This may be considerably more than the average home owner would be willing to pay for a refrigerator containing 1½ to 2 cu. ft. of extra-cold freezing space. Refrigerator-freezer combinations (double-door type) which maintain satisfactorily low temperatures in their freezer sections cost even more for electricity to operate relative to the standard refrigerator (around 100% more than the ordinary or usual refrigerator).

The new refrigerator designs introduce another serious difficulty, in that when frozen foods are being stored, the usual method of defrosting by turning up the temperature control is not practical,

for while the defrosting is taking place the temperature in the freezing space will rise for a considerable period to an undesirably high temperature. The housewife therefore must either delay defrosting until her supply of frozen food is used up, or remove the frozen food and wrap it in blankets or newspapers to prevent its thawing out while the defrosting is taking place. Both methods are impracticable or inconvenient. At least two manufacturers, *Crosley* and *Westinghouse*, have attempted to solve this problem by using an automatic method of defrosting in which the refrigerant or the top and bottom of the compartment is electrically heated for a short period, so as to melt frost and ice quickly from the coils. In the *Crosley*, the surface of the bottom element reached a peak temperature of 112°F (average air temperature in the freezing chamber was 21.5°F for 46 minutes) during the defrosting cycle, and the *Westinghouse*, 64° (average air temperature in freezing chamber was 23.7° for 18 minutes). The temperature of the upper surfaces of the bottom elements of the freezer compartments was high enough to cause some thawing of ice cream stored in direct contact with the bottom of the freezer space. To help with this problem, both manufacturers supply a wire grid on which the frozen-food packages are placed, thereby greatly reducing the heat transfer from the coils, carrying the heated refrigerant, to the packages of frozen food immediately above them.

Probably not very much is known about the effects on the quality of frozen food of short-period temperature fluctuations over a moderate range, but there seems reason to believe that because of the brief period involved the defrosting of the *Crosley* or the *Westinghouse* would not have any serious effect on the flavor quality of the stored frozen foods, provided that foods to be stored for a relatively long time were not those in contact with or close to the bottom plate of the freezing chamber.

Ratings of the refrigerators in the September and October 1951 CONSUMERS' RESEARCH BULLETINS were on the basis of their performance as refrigerators, since up to this time there have been no standards as to freezing compartment temperatures, either formally adopted by trade or professional associations or otherwise available, by which the combination freezer-and-refrigerator appliances could be judged. Such standards must be evolved, and it is the purpose of this article to bring the facts to the attention of consumers and others concerned in order that they may realize that a problem does exist calling for care by consumers in the use of these appliances and for improvements in design practices on the part of the manufacturers' engineers. This will call for development of suitable standards and specifications dealing with the new situation, by the interested trade associations and professional societies.



## Ironing Boards

**H**AND IRONING is one of the most tiring tasks the housewife performs. In either the standing or the sitting position, considerable movement of the back and arms is required, and much time is consumed. According to recent reports published by various university experiment stations, many women can reduce considerably the time and energy required for ironing. Habits formed in using old-fashioned and inadequate equipment have been carried through the years and call for much needless drudgery. The hand iron used to be too heavy to use comfortably in the sitting position, and ironing boards were made to be used at one height only — too high for a short woman, too low for a tall woman, and not suitable for ironing while sitting. As a result, women were forced to stand and iron, not at the most comfortable height, but at the height that their particular ironing board happened to be.

In one investigation, less than 20 percent of the participating women preferred ironing board heights identical with those they were using at home, when they were allowed to adjust the height of a test board to the position they found most comfortable. At the end of the investigation, after having ironed with suitable equipment in both sitting and standing positions, 80 percent of the women stated that they preferred to iron while sitting.

In recent years, makers of most irons have eliminated needless weight, and irons are now light enough to be used comfortably in the sitting or standing position. It's a somewhat different story with ironing boards; most of those in use are not adjustable for height. In addition, some are made with wood tops which are subject to warping (with the present scarcity and high price of steel, wood will probably be used on future models to a greater extent). For some time home economists have been recommending in State Experiment Station bulletins a wide ironing board (20 inches wide and about 4 feet long) to be placed on top of the standard board when ironing shirts or large flat work. So far as is known, no board of this size has yet appeared on the market.

The housewife should keep in mind the following points when selecting an ironing board:

**Height** — The height should be adjustable, with a range wide enough to permit ironing in the sitting or standing position by all members of the household who will use it. (A range of 30 to 38 inches for standing, 20 to 25 inches for sitting, will accommodate persons of practically any stature.) The height adjustment should operate with a minimum of effort.

**Ironing surface** — The surface should be smooth and free of warp; if the top is made of thin metal, it

should be supported sufficiently well so that it does not deflect noticeably between the braces. A good metal top is preferred to a wood board, which is always subject to warping in use.

**Clearance** — Legs and braces should not interfere when long skirts are being ironed and should permit knee clearance for ironing while sitting.

**General construction** — The ironing board should be light in weight, but must be well braced to prevent wobble while ironing. The feet must be spaced widely, to eliminate any tendency toward upsetting, especially when the ironing is being done near the tip. The feet should have rubber tips to prevent sliding, and damage to the floor. The weight of the ironing board and the method of folding are important considerations, as in most cases the board will be put away when it is not in use. All parts of the board must be smooth to prevent snagging the stockings of the person who is ironing, and to protect the articles being ironed. The metal parts of the board should be rust-resistant, also.

### CR's Tests

The ironing boards included in this test were examined as mentioned above and then used in various homes. Each board was used by at least six different women over a period of about four months. After the home use tests, the boards were re-examined for indications of warpage, wear, and deterioration of finish.

The dimensions of the ironing surface were very nearly the same for all the boards tested, likewise the height of the boards that were not adjustable for height. The widths were within the range of 14¼ to 15 inches; lengths, 53½ to 54¼ inches;



With an ironing board of the proper height, the housewife can iron comfortably while sitting. (Ironing board shown is Proctor Hi-Lo.)

height (non-adjustable boards), 32 to 33 inches. The height range of the adjustable boards tested was sufficient to accommodate the preferences of women of any normal stature for *ironing while standing*. Only three of the boards tested, the *Proctor, Rid-Jid Adjustable*, and *Meyer-Bilt*, could be adjusted low enough for comfortable ironing while the user was sitting in a chair. The shape of the narrow end of the boards and the clearance from the tip to braces and legs varied somewhat, but all boards were considered satisfactory in these respects. Of the wood-topped boards, only the *Hoosier* was found free from warp at the end of the test period. The feet on the boards were black rubber, except as noted in the listings.

## Adjustable-Height Ironing Boards

### A. Recommended

*Mary Proctor Hi-Lo, Model 60* (Proctor Electric Co., Third St. and Hunting Park Ave., Philadelphia 40; available also from Montgomery Ward & Co., Cat. No. 86-559 R) \$13.95. All steel, well finished. Weight, 16½ lb., about average in weight of boards tested. Height very easy to adjust to 9 levels from 27 in. to 36 in. by releasing latch under top of board. Easy to close, and catch locks board in closed position. Stability and rigidity, good. Legs were offset to increase knee clearance for right-handed women when sitting, but there was little knee clearance for left-handed women. White rubber feet, which did not mark floor. 3

*Rid-Jid Adjustable* (J. R. Clark Co., Spring Park, Minn.) \$13.95. All steel, well finished. Weight, 17½ lb., above average. Height very easy to adjust to 6 levels from 25 in. to 35 in. by releasing latch under top of board. Very easy to close. Stability, satisfactory; rigidity, good. Knee room for person sitting, poor. Rubber feet marked some floors. This model supersedes the *Rid-Jid Air Flow Adjustable* listed below. 3

### B. Intermediate

*Met-L-Top, No. A-606* (Geuder, Paeschke & Frey Co., 324 N. 15 St., Milwaukee 3) \$10.95. All steel, well finished. Weight, 17½ lb., above average. Height adjustable to 7 levels from 31½ in. to 35½ in. by means of a thumbscrew at lower part of each of the three legs. Ease of folding and unfolding, about average. Stability and rigidity, satisfactory. Knee room for person sitting, fair. White rubber feet, which did not mark floor. 2

*Meyer-Bilt Rife-Hite* (W. F. Meyer & Sons, Inc., 1494 Merchandise Mart, Chicago 54) \$14.95. Wood top (which warped slightly during tests), steel legs; finish, fair. Weight, 18½ lb., above average. Height adjustable to 25, 29½, 31½, 33, and 34½ in. by latching upper end of rear legs in proper position. Somewhat more difficult than average to fold and unfold, as height adjustment and latch are combined. Stability and rigidity, good. Knee room for person sitting, fair. Rubber feet marked some floors. 3

### C. Not Recommended

*Rid-Jid Air Flow Adjustable* (J. R. Clark Co.) \$9.95. All steel; finish, fair. Weight, 18 lb., above average.

Height adjustable to 6 levels from 29 to 35½ in. by changing length of each of the three legs. The adjustment lock on one leg broke at a rivet hole during test. Easy to fold and unfold, but latch had too much play and allowed an undesirable amount of movement of board while ironing was being done. Weak crossbrace on which front legs are hinged bent during normal use. Rubber feet marked some floors. Model has been superseded by new model listed above. 2

## Non-Adjustable-Height Ironing Boards

### B. Intermediate

*Arvin, Style No. 1200* (Arvin Industries, Inc., Columbus, Ind.) \$8.95. All steel, well finished. Weight, 19 lb., above average. Height, 32 in. Ease of closing, fair. Stability, good; rigidity, below average (brace rods to rear legs are weak). Knee room for person sitting, poor. Rubber feet marked some floors. 2

*Hoosier* (Goshen Churn & Ladder, Inc., Goshen, Ind.) \$8.75. Wood top (which did not warp during test period), painted steel legs. Weight, 15 lb., below average. Height, 32 in. Fairly easy to close and open, but there is some danger of pinching fingers under locking mechanism. Stability, good; rigidity, very good. Knee room for person sitting, fair. Rubber feet marked some floors. 2

*Keller, Model M-300* (H. V. Keller Mfg. Co., 501 Huron St., S.E., Minneapolis 14) \$9.95. All steel, well finished. Weight, 16 lb., average. Height, 32 in. Ease of folding, fair; more difficult to latch when opening than average. Stability and rigidity, satisfactory. Knee room for person sitting, poor. Rubber feet marked some floors. 2

*Maid of Honor* (Sears-Roebuck's Cat. No. 05603) \$7.95, plus postage. Steel top and legs; finish, fair (paint on top chipped easily). Weight, 18½ lb., above average. Height, 33 in. Ease of folding, fair. Stability and rigidity, satisfactory. Knee room for person sitting, poor. Rubber feet marked some floors. 2

*Seymour, Model 120-W* (Seymour Tool & Engineering Co., Inc., Seymour, Ind.) \$8.95. All steel, well finished. Weight, 20 lb., heaviest board tested. Height, 32½ in. Fairly easy to open and close. Rigidity and stability, satisfactory. Knee room for person sitting, poor. Rubber feet marked some floors. 2

*So-Lite* (Gary Steel Products Corp., 25 and Hampton, Norfolk, Va.) \$10.95. Aluminum and steel; finish, fair, some rough edges. Weight, 14½ lb., below average. Height, 32 in. Ease of folding and unfolding, fair. Stability and rigidity, satisfactory. Knee room for person sitting, fair. Rubber feet marked some floors. 2

### C. Not Recommended

*Maid of Honor* (Sears-Roebuck's Cat. No. 05601) \$4.29, plus postage. Wood top (which warped considerably during tests); wood legs with steel braces which developed rust during test period. Weight, 12 lb., light. Height, 32 in. Lacked the needed rubber tips on legs. 1

*Ward's* (Montgomery Ward's Cat. No. 86-545) \$3.98, plus postage. Same as Sears' *Maid of Honor* above except for slight difference in latch. 1

# RATINGS of MOTION PICTURES

THIS section aims to give critical consumers a digest of opinion from a wide range of motion picture reviews, including the motion picture trade press, leading newspapers and magazines—some 19 different periodicals in all. The motion picture ratings which follow thus do not represent the judgment of a single person, but are based on an analysis of critics' reviews.

The sources of the reviews are:

*Box Office, Cue, Daily News (N.Y.), The Exhibitor, Harrison's Reports, Joint Estimates of Current Motion Pictures, Motion Picture Herald, National Legion of Decency List, Newsweek, New York Herald Tribune, New York Times, Parents' Magazine, Release of the D.A.R. Press Committee, Reviews and Ratings by the Protestant Motion Picture Council, Successful Farming, Time, Times Herald (Washington, D.C.), Variety (weekly), Weekly Guide to Selected Motion Pictures (National Board of Review of Motion Pictures, Inc.).*

The figures preceding the title of the picture indicate the number of critics who have been judged to rate the film A (recommended), B (intermediate), or C (not recommended) on its entertainment values.

Audience suitability is indicated by "A" for adults, "Y" for young people (14-18), and "C" for children, at the end of each line.

Descriptive abbreviations are as follows:

adv—adventure  
biog—biography  
c—in color (Technicolor, Cinecolor, Trucolor, Magnacolor, Vitacolor, etc.)  
car—cartoon  
com—comedy  
cri—crime and capture of criminals  
doc—documentary  
dr—drama  
fan—fantasy  
hist—founded on historical incident  
mel—melodrama  
mus—musical  
mys—mystery  
nov—dramatization of a novel  
rom—romance  
sci—science fiction  
soc—social-problem drama  
trav—travelogue  
war—dealing with the lives of people in wartime  
wes—western

A	B	C		
—	2	5	According to Mrs. Hoyle	mel A
—	8	6	Across the Wide Missouri	mel-c A
—	2	12	Adventures of Captain Fabian	mel A
1	2	1	African Queen, The	adv-c A
—	5	8	Alice in Wonderland (Bunin)	fan-c AYC
3	9	6	Alice in Wonderland (Disney)	mus-car-c AYC
9	8	—	American in Paris, An	mus-com-c A
3	13	2	Angels in the Outfield	fan AYC
—	4	10	Anne of the Indies	adv-c A
—	1	6	Arizona Manhunt	wes AYC
—	—	3	Badman's Gold	wes AYC
—	5	4	Bannerline	soc-dr A
—	3	5	Barefoot Mailman, The	dr-c AY
—	6	3	Basketball Fix, The	soc-dr AYC
—	8	8	Behave Yourself	com A
2	6	8	Big Carnival, The	mel-c A
—	4	3	Big Gusher, The	mel AYC
—	5	4	Big Night, The	mel A
—	2	1	Bitter Springs	mel AYC
—	2	3	Blackmailed	cri-mel A
3	5	6	Blue Veil, The	dr A
—	3	2	Bonanza Town	mus-wes AYC
—	1	4	Bride of the Gorilla	mel A
4	12	1	Bright Victory	war-dr AYC
3	11	2	Browning Version, The	dr A
1	7	3	Callaway Went Thataway	com A
—	3	2	Calling Bulldog Drummond	cri-mel AYC
—	1	7	Casa Manana	mus-com A
2	9	3	Cattle Drive	wes-c AYC
—	—	3	Cattle Queen	wes AYC
—	6	3	Cave of Outlaws	mys-mel-c A

A	B	C		
—	1	10	Chain of Circumstance	dr A
—	2	3	Chicago Calling	dr A
4	6	4	Christmas Carol, A	dr AYC
—	2	2	Cimarron Kid, The	wes-c A
1	5	5	Close to My Heart	dr A
—	1	2	Cloudburst	dr A
1	12	2	Clouded Yellow, The	cri-mel A
—	11	5	Come Fill the Cup	dr A
—	1	8	Corky of Gasoline Alley	com AYC
—	4	4	Crazy Over Horses	com A
—	4	7	Criminal Lawyer	cri-mel A
—	7	7	Crosswinds	adv-c A
—	2	5	Cyclone Fury	mus-wes AYC
—	2	6	Dakota Kid, The	wes AYC
—	3	11	Darling, How Could You!	com A
6	8	5	David and Bathsheba	dr-c A
4	10	3	Day the Earth Stood Still, The	sci A
—	5	11	Dear Brat	com A
3	2	2	Death of a Salesman	dr A
2	3	1	Decision Before Dawn	war-dr A
1	10	6	Desert Fox, The	war-dr A
—	2	1	Desert of Lost Men	wes AYC
7	9	—	Detective Story	cri-dr A
—	4	4	Disc Jockey	mus-com AYC
—	5	3	Distant Drums	war-mel-c A
—	2	6	Double Dynamite	com A
—	3	6	Drums in the Deep South	war-mel-c A
—	3	3	Elephant Stampede	adv AYC
—	5	3	Elopement	com A
2	10	2	Emperor's Nightingale, The	fan-c AYC
—	2	3	Eroica	mus-biog A
—	2	1	Exchange Girl	com AYC
—	5	4	Family Secret, The	dr A
—	2	1	Far from Moscow	dr-c A
—	5	3	Father Takes the Air	com AYC
—	4	1	FBI Girl	cri-mel A
—	3	8	Fixed Bayonets	war-dr A
—	5	2	Flame of Araby	adv-c A
—	3	—	Flaming Feather	mel-c AYC
—	3	2	Flight to Mars	sci-c AYC
2	9	4	Flying Leathernecks	war-mel-c AYC
14	4	—	Force of Arms	war-dr A
—	5	—	Fort Defiance	wes-c A
—	1	4	Fort Dodge Stampede	wes AYC
—	6	—	Fugitive Lady	mel A
—	8	1	Galloping Major, The	com A
—	3	2	G.I. Jane	mus-com AYC
—	4	5	Girl on the Bridge, The	dr A
—	3	—	Gold Raiders	wes A
1	8	5	Golden Girl	mus-dr-c A
—	7	4	Golden Horde, The	adv-c A
—	2	1	Goose Boy, The	dr-c AYC
3	2	—	Greatest Show on Earth, The	mus-mel-c AYC
—	4	—	Guest, The	dr AYC
—	10	4	Happy Go Lovely	mus-com-c AYC
1	7	—	Harlem Globetrotters, The	dr AYC
—	1	8	Havana Rose	mus-com A
—	3	5	Her Panellled Door	war-dr A
2	15	2	Here Comes the Groom	com A
—	2	1	Highly Dangerous	war-mel AYC
—	6	4	Highwayman, The	adv-c A
—	3	3	Hills of Utah	mus-wes AYC
—	4	14	His Kind of Woman	mel A
—	3	5	History of Mr. Polly, The	com A
—	4	2	Honeychile	mus-wes-c AYC
—	2	2	Hong Kong	dr-c AYC
—	6	—	Hot Lead	wes A
1	7	4	Hotel Sahara	war-com A
—	1	2	House of 1000 Women	war-mel A
—	1	7	Hurricane Island	adv-c AYC

A	B	C		
—	5	4	I Want You	war-dr A
—	2	2	I'll Never Forget You	dr-c AY
1	4	2	I'll See You in My Dreams	mus-com A
—	6	8	Iron Man	mel A
—	4	1	It's a Big Country	dr AY
—	3	2	Joe Palooka in Triple Cross	com AY
—	1	13	Journey Into Light	dr A
—	3	6	Jungle Manhunt	mel AY
—	3	1	Jungle of Chang	doc-dr AY
—	2	3	Kentucky Jubilee	mus-com A
—	2	5	Kid from Amarillo, The	mus-wes A
1	11	4	Kind Lady	mys-mel A
—	4	1	La Ronde	dr A
—	5	2	Lady and the Bandit, The	adv A
1	6	3	Lady from Texas, The	wes-c AY
—	2	8	Lady Pays Off, The	com A
—	1	7	Lady Says No, The!	com A
—	4	3	Laughter in Paradise	com A
1	16	—	Lavender Hill Mob, The	cri-com A
—	7	9	Law and the Lady, The	mel A
—	1	2	Leave It to the Marines	war-com AY
—	4	2	Let's Go Navy	com AY
—	5	10	Let's Make It Legal	com A
—	4	3	Light Touch, The	mel A
—	2	8	Lilli Marlene	war-mel A
—	1	2	Liabon Story, The	mus-mel A
—	3	12	Little Egypt	mel-c A
—	5	1	Longhorn, The	wes AY
—	2	3	Lost Continent	sci A
—	3	6	Love Nest	war-com A
—	—	5	Ma Pomme	dr A
—	3	6	Magic Carpet, The	adv-c AY
—	6	11	Magic Face, The	war-dr A
—	4	4	Man in the Dinghy	com A
—	4	2	Man in the Saddle	wes-c A
—	5	12	Man with a Cloak, The	mys-mel A
—	4	4	Maniacs on Wheels	mel A
—	4	8	Marie of the Port	dr A
—	4	8	Mark of the Renegade	mel-c A
—	11	3	Mask of the Avenger	adv-c AY
—	2	7	Medium, The	mus-dr A
—	7	4	Meet Danny Wilson	com A
—	2	9	Meet Me After the Show	mus-com-c A
—	5	5	Mill on the Po	dr A
—	7	10	Millionaire for Christy, A	com A
—	—	5	Miners of the Don	mus-dr-c A
—	3	2	Miracle in Milan	dr A
—	7	4	Mister Drake's Duck	com A
—	15	3	Mob, The	cri-mel A
1	4	1	Model and the Marriage Broker, The	com A
—	1	2	Montana Desperado	wes AY
—	1	7	Mr. Belvedere Rings the Bell	com A
—	12	3	Mr. Peek-A-Boo	com A
—	3	3	Murder Without Crime	dr A
—	3	2	Musorgsky	mus-biog-c A
—	1	7	My Favorite Spy	mus-com A
—	9	—	My Outlaw Brother	wes A
—	3	2	Nature's Half Acre	doc-c AY
—	1	10	Never Trust a Gambler	cri-mel A
—	3	13	No Highway in the Sky	mel A
—	1	6	Obsessed	mys-mel A
—	2	6	Oh, Amelia	com A
—	1	2	Oklahoma Justice	wes AY
—	2	4	On Dangerous Ground	mel A
—	3	10	On Moonlight Bay	mus-com-c AY
—	5	5	On the Loose	dr A
—	1	3	Outlaws of Texas	wes A
—	2	1	Overland Telegraph	wes AY
—	5	4	Painting the Clouds with Sunshine	mus-com-c A
—	3	11	Pandora and the Flying Dutchman	fan-c A
—	9	—	Pardon My French	com A
—	3	1	Path of Hope	dr A
—	2	2	Pecos River	wes AY
—	3	13	Peking Express	mel A
—	1	9	People Against O'Hara, The	mel A
—	3	11	People Will Talk	dr A
—	8	6	Pickup	dr A

A	B	C		
—	4	4	Pistol Harvest	wes AY
7	10	2	Place in the Sun, A	dr A
—	11	5	Pool of London	soc-mel A
—	3	2	Purple Heart Diary	mus-war-dr-c AY
6	4	2	Quo Vadis	dr-c AY
—	5	7	Racket, The	cri-mel A
1	5	2	Raging Tide, The	cri-mel A
—	2	1	Ramble in Erin	doc-c AY
2	3	1	Rashomon	dr A
3	10	3	Red Badge of Courage, The	war-dr A
—	2	2	Red Mountain	wes-c A
—	1	5	Reluctant Widow, The	adv A
—	5	3	Reunion in Reno	soc-dr A
2	13	2	Rhubarb	com A
1	9	5	Rich, Young and Pretty	mus-com-c A
5	6	5	River, The	dr-c A
—	2	6	Roadblock	cri-mel A
—	3	—	Roaring City	dr A
—	5	2	Rodeo King and the Senorita	mus-wes A
—	5	1	Sailor Beware	com A
2	13	3	Saturday's Hero	dr A
—	6	—	Savage Drums	mel AY
—	3	—	Scarred	mel A
—	4	4	Sea Hornet, The	mys-mel A
—	9	5	Secret of Convict Lake	cri-mel A
—	2	4	Secrets of Monte Carlo	cri-mel AY
—	3	1	Sellout, The	cri-mel A
—	4	3	Silver Canyon	wes-c A
—	5	4	Silver City	mel-c A
—	5	2	Slaughter Trail	mus-wes-c AY
—	2	4	Son of Dr. Jekyll, The	mys-mel A
—	2	1	Song of Dolores	mus-dr A
—	2	3	South of Caliente	mus-wes AY
—	3	2	St. Benny the Dip	dr A
—	3	—	Stagecoach Driver	wes AY
—	6	5	Starlift	mus-com AY
—	5	8	Strange Door, The	mel A
—	5	—	Street Bandits	cri-mel A
—	8	9	Strictly Dishonorable	com A
—	5	5	Strip, The	mus-mel A
—	7	5	Submarine Command	war-dr A
—	3	6	Sunny Side of the Street	mus-com-c AY
—	2	1	Superman Meets the Mole-Men	fan AY
—	8	6	Tall Target, The	mel AY
—	6	6	Tanks Are Coming, The	war-dr AY
—	9	3	Ten Tall Men	war-dr-c A
—	11	3	Texas Carnival	mus-com-c A
4	4	1	This Is Korea	war-doc-c AY
—	7	8	Thunder on the Hill	mys-mel A
—	3	—	Toast to Love, A	dr A
—	8	3	Tom Brown's Schooldays	dr AY
—	5	11	Tomorrow is Another Day	cri-mel A
—	10	4	Too Young to Kiss	mus-com AY
—	4	3	Two Dollar Bettor	soc-dr A
—	5	—	Two Gals and a Guy	com AY
—	3	7	Two of a Kind	cri-mel A
—	2	1	Two Pennies' Worth of Violets	dr A
2	8	5	Two Tickets to Broadway	mus-com-c A
—	2	6	Under the Olive Tree	dr A
—	4	7	Unknown Man, The	mel A
—	2	2	Unknown World	sci AY
—	4	—	Utah Wagon Train	mus-wes AY
—	3	2	Valley of Fire	mus-wes-c AY
—	4	—	Volcano	dr A
—	6	—	Weekend with Father	com AY
4	7	3	Well, The	soc-dr A
—	6	—	Westward the Women	wes A
—	7	5	When Worlds Collide	sci-c A
—	2	5	Whip Hand, The	mel AY
1	8	6	Whistle at Eaton Falls, The	soc-dr AY
—	5	—	Wicked City, The	dr A
—	3	3	Wild Blue Yonder, The	war-dr AY
—	3	3	Women Without Names	war-dr A
—	6	3	Wooden Horse, The	war-mel A
—	1	3	Yellow Fin	dr A
—	3	1	Yes Sir, Mr. Bones	mus-com AY
—	7	3	You Never Can Tell	fan AY
—	3	7	Young Scarface	cri-dr A
—	1	5	Yukon Manhunt	mel AY



# The Consumers' Observation Post

(Continued from page 4)

with other offerings around town." Probably very few consumers saw this item which indicated that there need be no correlation at all between quality and price. It does, however, suggest that there is sound justification for the general feeling on the part of consumers that they are being charged all that the traffic will bear for a number of products.

\* \* \*

POTATOES are not being eaten as extensively as the farmers would like. The World War II high of 126 pounds per capita has shrunk to 104 pounds, a figure below the consumption of pre-war years, reports the New York World Telegram and Sun. One agricultural specialist suggests that potatoes are being raised for maximum yield, with too little attention to flavor. The artificial price supports of past years which made potatoes more costly may also have been a factor in their decline in popularity.

\* \* \*

ZIPPER TROUBLE involving sticking of the zipper and failure to slide freely may often be remedied by the application of a product called Ziprite. In appearance it resembles a conventional styptic stick which is simply applied by drawing the tip over each side of a zipper that has a tendency to balk. It was found to be quite effective in actual use tests. It sells for 25 cents in notion departments, drug and cigar stores.

\* \* \*

THE CONVENTIONAL WIRE CLOTHES HANGERS on which clothes are customarily delivered from the cleaner's are usually numerous in the average closet. These hangers can be converted to the coat-skirt-hanger device by the use of Hobar Clip-A-Grips. The grips are simply attached by a pinch clip to the lower wire of a hanger. There is also another action by which a skirt or slacks or trousers can be held in place by a conventional gripping action. For the most part the action of the Hobar Clip-A-Grips was satisfactory in holding the gar-

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## Testimony from Subscribers:

"I nearly always consult Consumers' Research before making a major purchase."

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ments in place. They slipped along the wire of the hanger somewhat more readily than the combination skirt hangers, according to a report from one user, but others found them unobjectionable in this respect. They were more satisfactory when used to hold only one garment. The price of six Grips for 29 cents would make a combination-skirt-holder cost around 10 cents if the wire hangers have been obtained free of charge in a dry-cleaning transaction.

\* \* \*

#### RECENTLY TESTED:

**Tub Rest** (The Wallace, Davis Co., 2813 Dixwell Ave., Hamden 14, Conn.), \$1.50. A curved metal holder lined with a half inch layer of foam rubber, which is attached to the bathtub by suction cups. The device was placed in turn, as a catalog advertisement indicated, in two positions in the bathtub, to support the back, and the neck. While it served the purpose of providing a support so that the user's back and shoulders did not touch the tub, the "gadget" is considered too small for convenience and comfort, and not nearly as comfortable for "leisurely, soothing baths" as sales literature suggested. The Tub Rest was easy to attach, but sometimes it would slip, and once in the bathtub a person would not find it convenient to adjust it to another position. If care were not taken to avoid splashing, the foam rubber would absorb water and thereafter wet the hair. Some users might like the device, but we believe most would find its disadvantages to outweigh such support as the Tub Rest offers for "relaxation while soaking in the tub."

**Exzyme Proteolytic Digestant** (Pabst Brewing Co., Milwaukee) is a new product not marketed for home use (when it was secured for test in May 1951). It is a powder designed to "devour" protein stains such as those caused by eggs, milk, ice cream, chocolate, blood, and glue. It is also recommended by the Pabst Brewing Company for effective work on coffee and beer stains. The product is intended primarily for use by dry-cleaning establishments on cotton, wool, nylon, rayon and certain acetate rayon fabrics. The company reports that it cannot be used on fabrics made from synthetic protein fibers since the enzyme would digest the fabric itself. The powder is to be dissolved in water and applied as a spotting agent to the fabric. In CR's tests it was found to be satisfactory for use on acetate rayon, and fairly effective on wool. It was not particularly effective on spun rayon or cotton and not completely effective on nylon. The professional dry cleaner with his ability to use specialized spotting media may find the product useful for certain spots on particular fabrics, but the average homemaker would find that for her needs it had very definite limitations.

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CR-2-52

# PHONOGRAPH RECORDS

BY WALTER TRUENINGER

Please Note: In the ratings AA indicates highly recommended; A, recommended; B, intermediate; C, not recommended. Although nearly all new releases of serious music are heard, space narrows comment, generally, to items which merit high ratings.

**Bach:** *Anna Magdalena Book*. Kurt Rapi (harpsichord) and Maja Weis-Osborn (soprano). Bach Guild BG-510. \$5.95. Engaging short pieces well played on the harpsichord plus six soprano solos beautifully sung. **Interpretation AA**  
**Fidelity of Recording AA**

**Bach:** *Passacaglia and Fugue in C Minor & Concerto No. 2 in A Minor*. Carl Weinrich (organ). MGM E98. \$3. Volume I in a series which will eventually include all of Bach's major works for organ. Recorded in Princeton University Chapel. The volume level for the *Passacaglia* is higher than for the *Concerto*. But in both cases the range is satisfactory and the playing clear. Weinrich performs with fine spirit, facility, and true knowledge of the style. **Interpretation AA**  
**Fidelity of Recording AA**

**Chopin:** *Concerto No. 1*. Kilenyi (piano) with the Austrian Symphony Orchestra under Prohaska. Remington RLP 199-44. \$2.19. Chopin's orchestration is weak but the interesting solo part has kept this work in the repertoire. Kilenyi plays with insight and sweep and is ably supported. Excellent recording except for a rare pitch wobble in the piano and some constriction in the orchestra. Note the low price for this 12-inch LP. **Interpretation AA**  
**Fidelity of Recording A**

**Chopin:** *Nocturnes*. Rubinstein (piano). 4 sides, RCA Victor LM 6005. \$11.44. The 19 nocturnes played here are perhaps the most Chopinesque of all compositions — lush, moody, wonderfully pianistic. Rubinstein plays them without too much sentiment and so performs a service to Chopin. Close-in recording of excellent quality, with hardly a pitch waver in my copy. **Interpretation AA**  
**Fidelity of Recording AA**

**Moussorgsky:** *Pictures at an Exhibition*. Chicago Symphony Orchestra under Kubelik. Mercury MG 5000. \$5.95. Ravel's orchestration of the Moussorgsky piano suite which describes 10 drawings and water colors. Kubelik and his men indicate nearly all the glitter, contrast, and incisive qualities of this work. Brilliant recording . . . may be used as a fidelity test record. **Interpretation A**  
**Fidelity of Recording AA**

**Mozart:** *Don Giovanni*. Souez, Mildmay, Brownlee, Baccaioni, etc., under Fritz Busch. 6 sides, RCA Victor Set LCT 6102. \$17.16. Re-issue of one of the finest operatic sets ever recorded, long out of print on 78's. The ensemble is remarkable, the product of Busch's drilling for a Glyndebourne Festival. The LP fidelity rates slightly lower than the original cumbersome 3 album 78 rpm. set, principally lacking its clarity and depth. But there is enough here to make this my favorite re-issue set in the past year. . . . Close behind it, however, is the Collector's issue of Debussy's *Pelléas and Mélisande* recorded in France during the war but not released here until now (RCA Victor LCT 6103). . . . And the Glyndebourne *Marriage of Figaro* (LCT 6001). **Interpretation AA**  
**Fidelity of Recording B**

**Strauss:** *Till Eulenspiegel's Merry Pranks & Death and Transfiguration*. RCA Victor Symphony Orchestra under Reiner. RCA Victor LM 1180. \$5.45. Supreme symphonic poems performed with dramatic impact and taste and musical feeling. Powerful recording. **Interpretation AA**  
**Fidelity of Recording AA**

**Sullivan:** *Pincapple Poll*. Sadler's Wells Orchestra under Mackerras. Columbia ML 4439. \$5.45. Sparkling ballet based on the music of Sir Arthur Sullivan, arranged by the conductor. It introduces airs from *The Mikado*, *Trial by Jury*, *Sorcerer*, *Patience*, *Gondoliers*, etc. Rousing performance and

loud, warm recording. Good fun, particularly for G & S fans. **Interpretation AA**  
**Fidelity of Recording AA**

**Wagner:** *Die Meistersinger*. Schwarzkopf, Edelmann, Kunz, etc., under von Karajan. 10 sides, Columbia SL 117. \$26.50. Wagner's great comic opera running over four hours was recorded in its entirety at performances of the August 1951 Bayreuth Festival. For fidelity, the recording is acceptable, though higher fidelity is common in current studio releases. Voices are sometimes close to the mike, sometimes far away, and the balance of voices with orchestra is not always perfect. The orchestra's playing of the marvelous overture is ragged. Of the singers, Kunz as Beckmesser, Malaniuk as Magdalene, Schwarzkopf as Eva are best and their best could be better if the recording were made in a studio where it is common to do weak spots over. There are weak spots. The direction is intelligent and sensitive. **Interpretation A**  
**Fidelity of Recording B**

Columbia's New \$2.85 10-inch LP Masterworks Record Series. This series features uninterrupted performances of classic selections heretofore available only on double-sided 78 rpm. disks—a fine idea! The first 10 releases are generally well chosen for performance, though fidelity varies. Among the best disks is Bidu Sayao's singing of Villa-Lobos' enchanting *Bachianas Brasileiras No. 5* backed up by Ah! Fors E Luf from *La Traviata* (AL 3).

## OTHER LP'S HIGHLY RECOMMENDED (for interpretation and for fidelity)

**CIRCLE** — *Brass and String Music* by Hindemith. Radio Artists String Quartet, Davis Shuman (solo trombone), Shuman Brass Choir, etc., on L 51-100.

**COLUMBIA** — *Borodin, Cui, etc.: Tati-Tati*. Columbia Symphony Orchestra under Jannsen. ML 4480. *Piano Music of Gabriel Faure*. Robert and Gaby Casadesu (pianists) on ML 2205.

*William Warfield* (baritone) in *Old American Songs and Five Sea Chanties*. ML 2206.

**MERCURY** — *Bartok: Music for Stringed Instruments, Percussion, and Celesta* and *Bloch: Concerto Grosso*. Chicago Symphony Orchestra under Kubelik. MG 50001.

**MGM** — *Sylvia Marlowe Plays Rameau-Couperin* (harpsichord). E 538.

**RCA VICTOR** — *Patrice Munsel Sings Strauss Waltzes*. LM 139.

*Gems from Sigmund Romberg Shows*, Volume V. LM 138. **Rachmaninoff:** *Rhapsody on a Theme of Paganini*. Kapell (piano) with the Robin Hood Dell Orchestra under Reiner. LM 126.

**Rachmaninoff:** *Concerto No. 3*. Horowitz (piano) with the RCA Victor Symphony Orchestra under Reiner. LM 1178.

## RECOMMENDED RCA VICTOR 45'S

*Two Traditional Hebrew Numbers* sung by Cantor Kusevitzky on 49-3308. . . . **Sousa:** *Stars and Stripes*, **Brahms:** *Waltz in A Flat*, **Moszkowski:** *Etude in F* played by Horowitz (piano) on 49-3424. . . . **Tchaikovsky:** *Swan Lake — Dance of the Swan Queen* & **Chopin:** *Grand Valse Brillante*, played by Stokowski and His Symphony Orchestra on 49-3368. . . . **Beethoven:** *Romance in G* on 49-3611 and *Romance in F* on 49-3612, both played by Heifetz (violin). . . . **Verdi:** *Rigoletto* — arias sung by Pearce and Berger on 49-3369; *Caro Nome* sung by Berger and the *Quartet* sung by Pearce, Merriam, Warren and Berger on 49-3367. . . . *Ah Sweet Mystery of Life and Song of Songs* sung by Jan Pearce on 49-3447. . . . **Saint-Saens:** *Introduction and Rondo Capriccioso* played by Heifetz on 49-3443.

